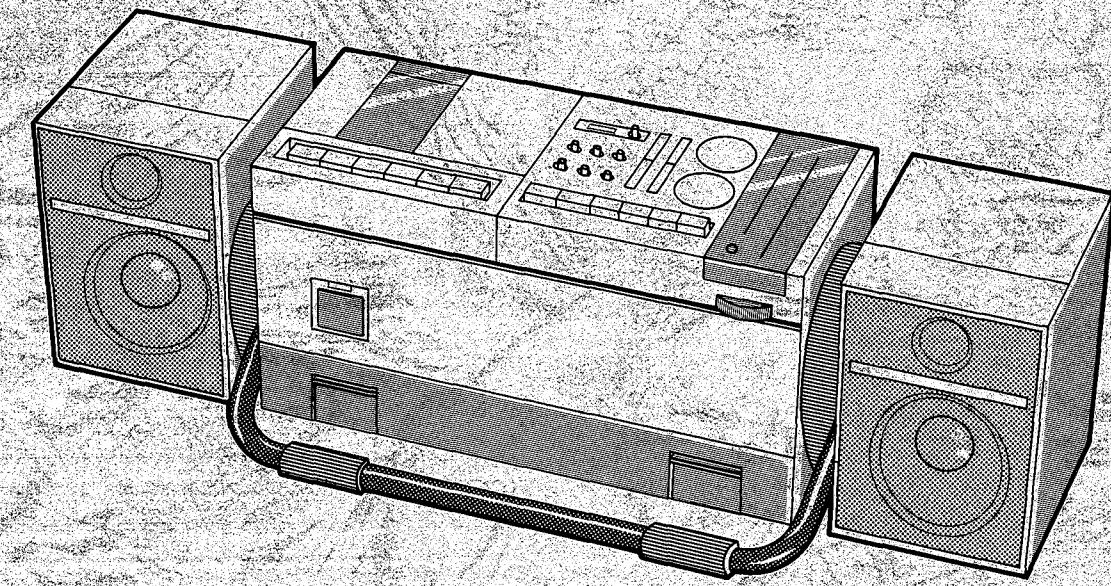


PJ-33FS

# AKAI SERVICE MANUAL

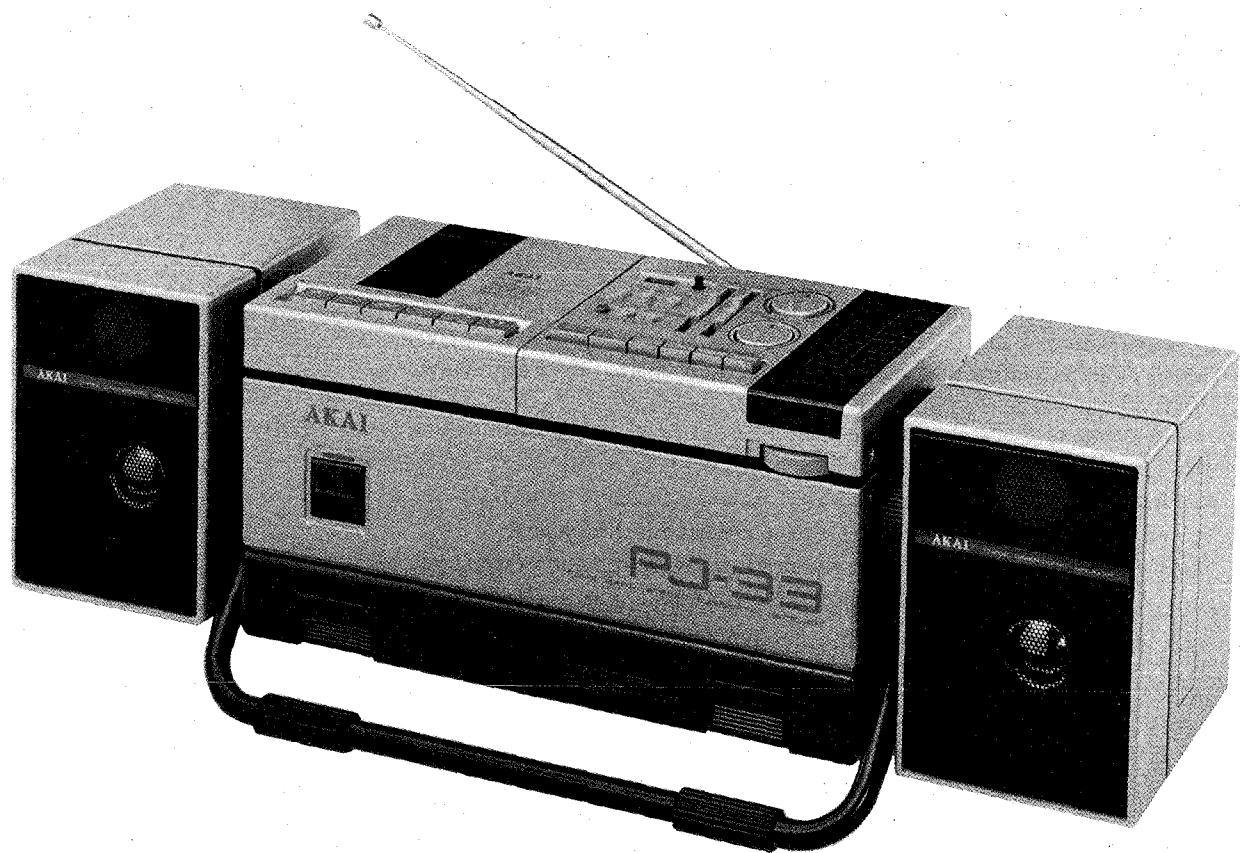


FOUR BAND STEREO CASSETTE RECEIVER

**MODEL PJ-33FS**

**ABBREVIATIONS FOR SERVICE MANUAL  
MODEL PJ-33FS**

ABBREVIATIONS	EXPLANATION
ADJ	ADJJustment
ANT	ANTenna
FM	Frequency Modulation
FREQ	FREQuency
IF	Intermediate Frequency
MW	Medium Wave
OSC	OSCillator
P.B	Play Back
REC	RECording
REG	REGulator
SENS	SENSitivity
SSG	Standard Signal Generator
SW	Short Wave



## FOUR BAND STEREO CASSETTE RECEIVER

### MODEL PJ-33FS

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SECTION 2	PARTS LIST .....	25
SECTION 3	SCHEMATIC DIAGRAM .....	37

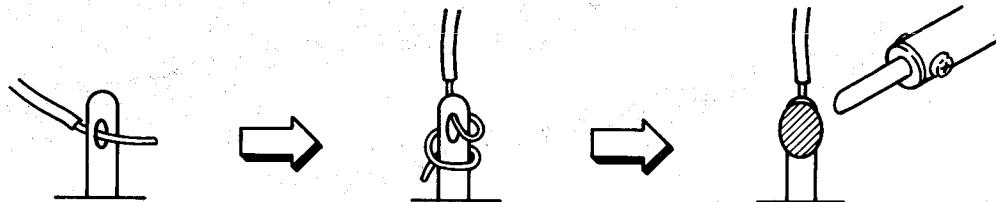
# SAFETY INSTRUCTIONS

## SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for **C** or **A**, specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks, line-in-out jacks etc.).

## PRECAUTIONS DURING SERVICING

1. Parts identified by the **Δ** symbol parts are critical for safety.  
Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.  
Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
  - 1) Wires covered with PVC tubing
  - 2) Double insulated wires
  - 3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
  - 1) Insulation Tape
  - 2) PVC tubing
  - 3) Spacers (Insulating Barriers)
  - 4) Insulation sheets for transistors
  - 5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

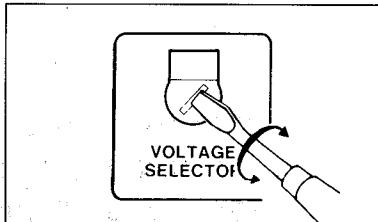
## VOLTAGE CONVERSION

If the voltage of your machine is switchable to either 110 to 120V or 220 to 240V, please proceed as follows.

1. Disconnect the power cord.
2. Turn the voltage selector located on the rear of your machine with a screwdriver until the correct voltage is indicated.

## CYCLE CONVERSION

Cycle Conversion is not necessary Since PJ-33FS Uses DC motor.



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## SECTION 1

# SERVICE MANUAL

## TABLE CONTENTS

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For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

# I. SPECIFICATIONS

TYPE	Four Band Stereo Cassette Receiver
FREQUENCY RANGE	FM: 87.6 to 108 MHz MW: 525 to 1605 kHz SW <sub>1</sub> : 3.0 to 8.0 MHz SW <sub>2</sub> : 8.0 to 22.0 MHz
SPEAKER SYSTEM	Three dimensional speaker system 2 way and passive radiator at rear Tweeter: Flat diaphragm (39 mm × 2) Woofers: Corn type (87 mm × 2) Passive radiator: (87 mm × 2)
POWER OUTPUT	Peak music power output: 30W × 2 Maximum power output: 15W × 2 EIAJ/DC 10% Distortion: 10W × 2
WOW AND FLUTTER	0.08% WRMS
FREQUENCY RESPONSE	Normal: 50 to 13,000 Hz CrO <sub>2</sub> : 50 to 14,000 Hz Metal: 50 to 16,000 Hz
S/N RATIO	Better than 52 dB Dolby NR switch on: Improves up to 10 dB above 5 kHz
POWER REQUIREMENTS	AC: 120V, 60 Hz for Canada and USA 220V, 50 Hz for Europe except UK 240V, 50 Hz for UK and Australia 110 to 120V/220 to 240V, 50/60 Hz for other countries DC: 13.5V SUM-1 "D" size or Equivalent × 9
DIMENSIONS	Total: 538(W) × 153(H) × 147(D) mm Stereo cassette receiver: 328(W) × 153(H) × 147(D) mm Speakers: 105(W) × 153(H) × 127(D) mm
WEIGHT	Total: 6.0 kg (without batteries) Stereo cassette receiver: 3.6 kg (without batteries) Speakers: 1.2 kg/unit × 2

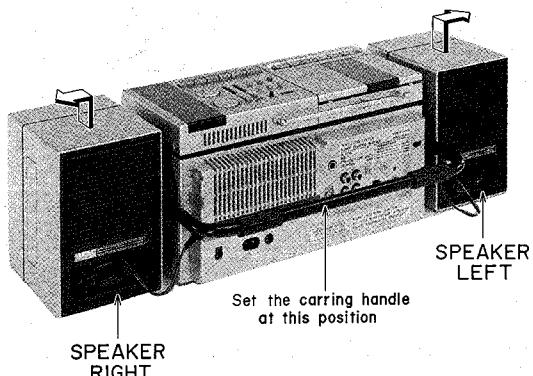
\* For improvement purposes, specifications and design are subject to change without notice.

\* "Dolby" and Double D symbol are trademarks of Dolby Laboratories Licensing Corporation.  
(Manufactured under license from Dolby Laboratories Licensing Corporation.)

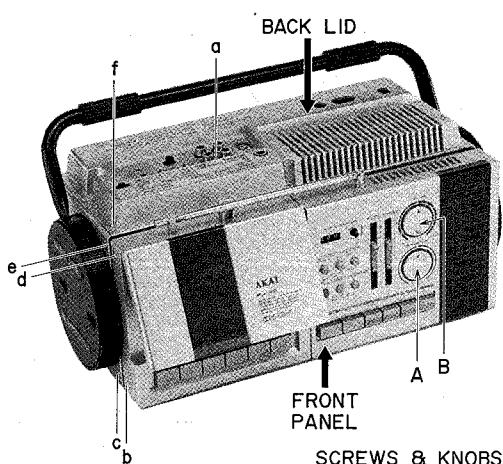
## II. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

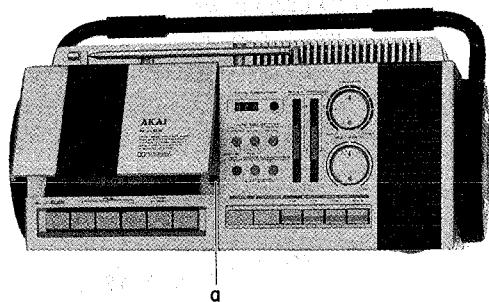
1



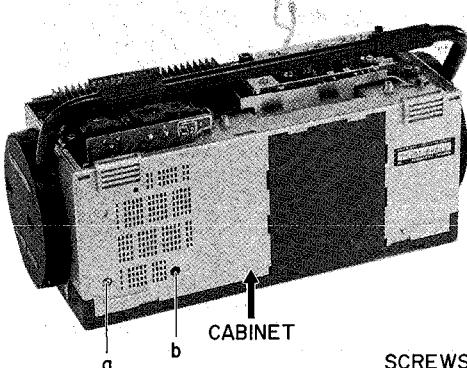
4



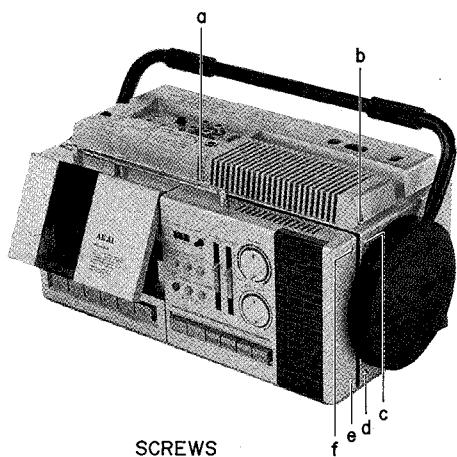
2



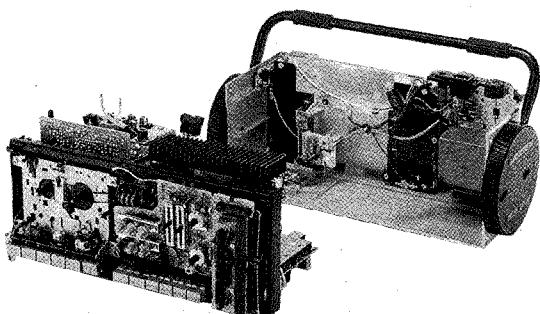
5

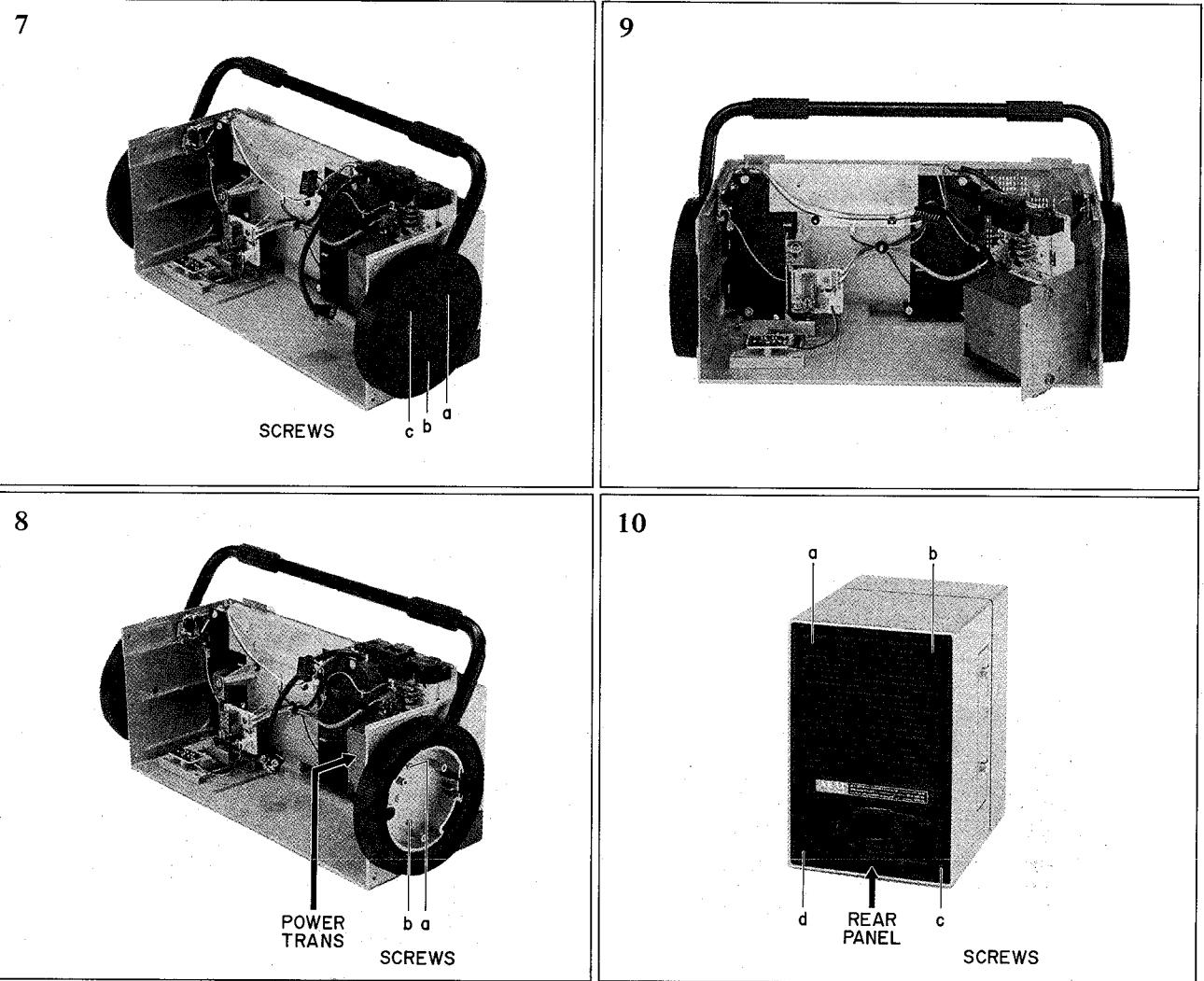


3



6





### III. CONTROLS

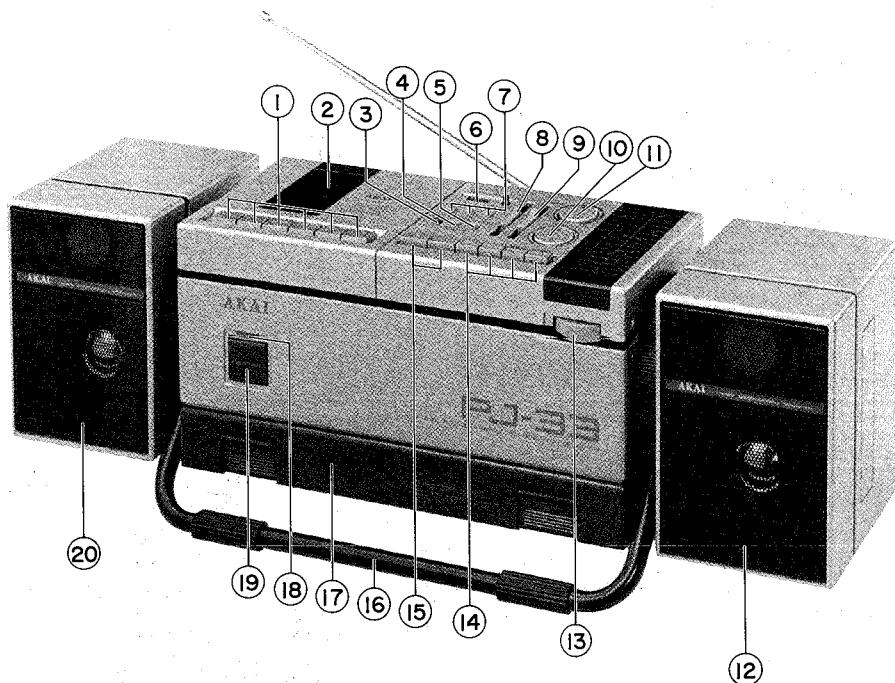


Fig. 3-1 Front View

- |                           |                               |
|---------------------------|-------------------------------|
| 1. TAPE OPERATION BUTTONS | 11. VOLUME CONTROL            |
| 2. CASSETTE HOLDER        | 12. RIGHT SPEAKER             |
| 3. DOLBY NR BUTTON        | 13. TUNING KNOB               |
| 4. FM MODE BUTTON         | 14. BAND SELECTOR             |
| 5. LOUDNESS BUTTON        | 15. TAPE, PHONO/CD SELECTOR   |
| 6. TAPE COUNTER           | 16. CARRYING HANDLE           |
| 7. TAPE SELECTOR          | 17. BATTERY COMPARTMENT COVER |
| 8. BASS CONTROL           | 18. BATTERY CHECK INDICATOR   |
| 9. TREBLE CONTROL         | 19. FUNCTION BUTTON           |
| 10. BALANCE CONTROL       | 20. LEFT SPEAKER              |

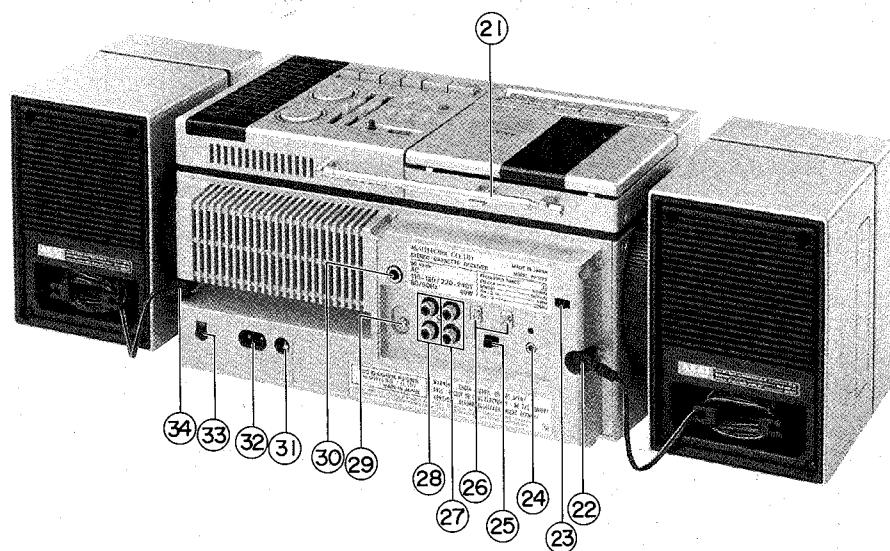


Fig. 3-2 Rear View

- |                                     |                                   |
|-------------------------------------|-----------------------------------|
| 21. ROD ANTENNA                     | 28. LINE IN/PHONO JACK            |
| 22. SPEAKER CORD AND PLUG (LEFT)    | 29. PHONO GROUND TERMINAL         |
| 23. BEAT CANCEL SELECTOR            | 30. PHONES JACK                   |
| 24. MIC JACK                        | 31. DC IN (13.5V) JACK            |
| 25. INPUT SELECTOR (PHONO, LINE/CD) | 32. AC INLET                      |
| 26. FM ANTENNA TERMINAL (75 ohms)   | 33. VOLTAGE SELECTOR (U ONLY)     |
| 27. LINE OUT JACK                   | 34. SPEAKER CORD AND PLUG (RIGHT) |

## IV. PRINCIPAL PARTS LOCATION

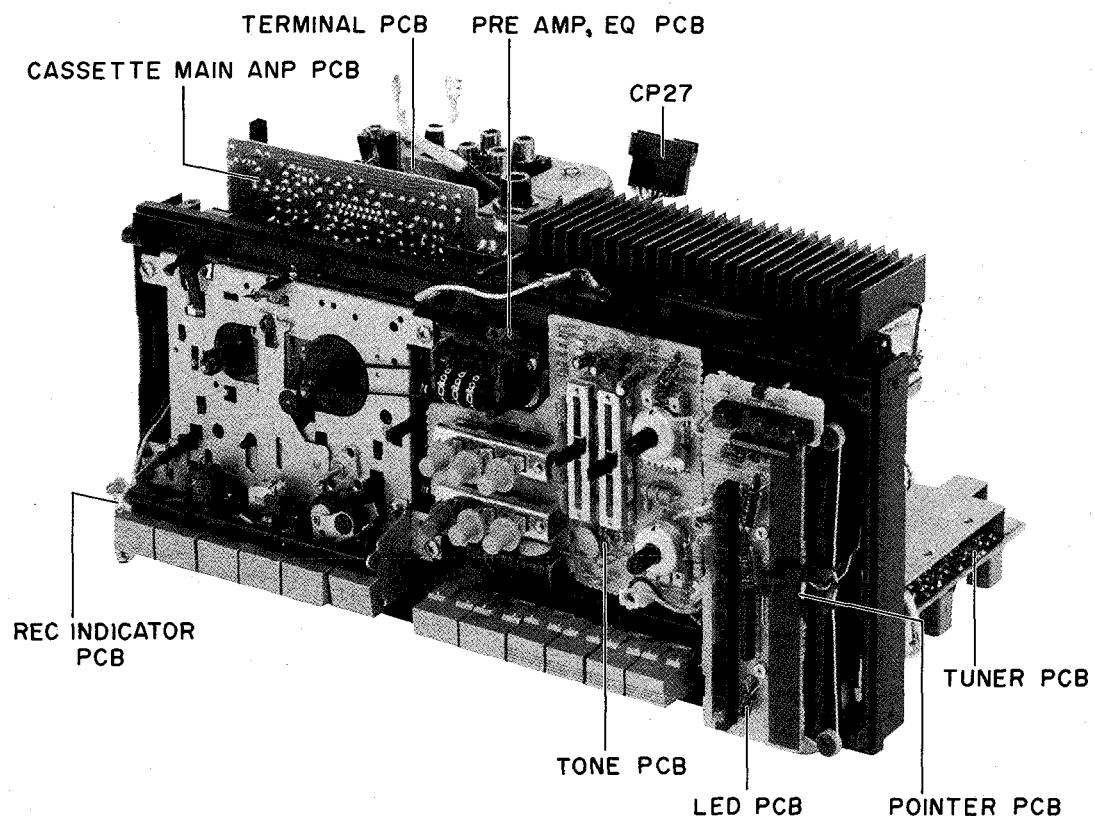


Fig. 4-1

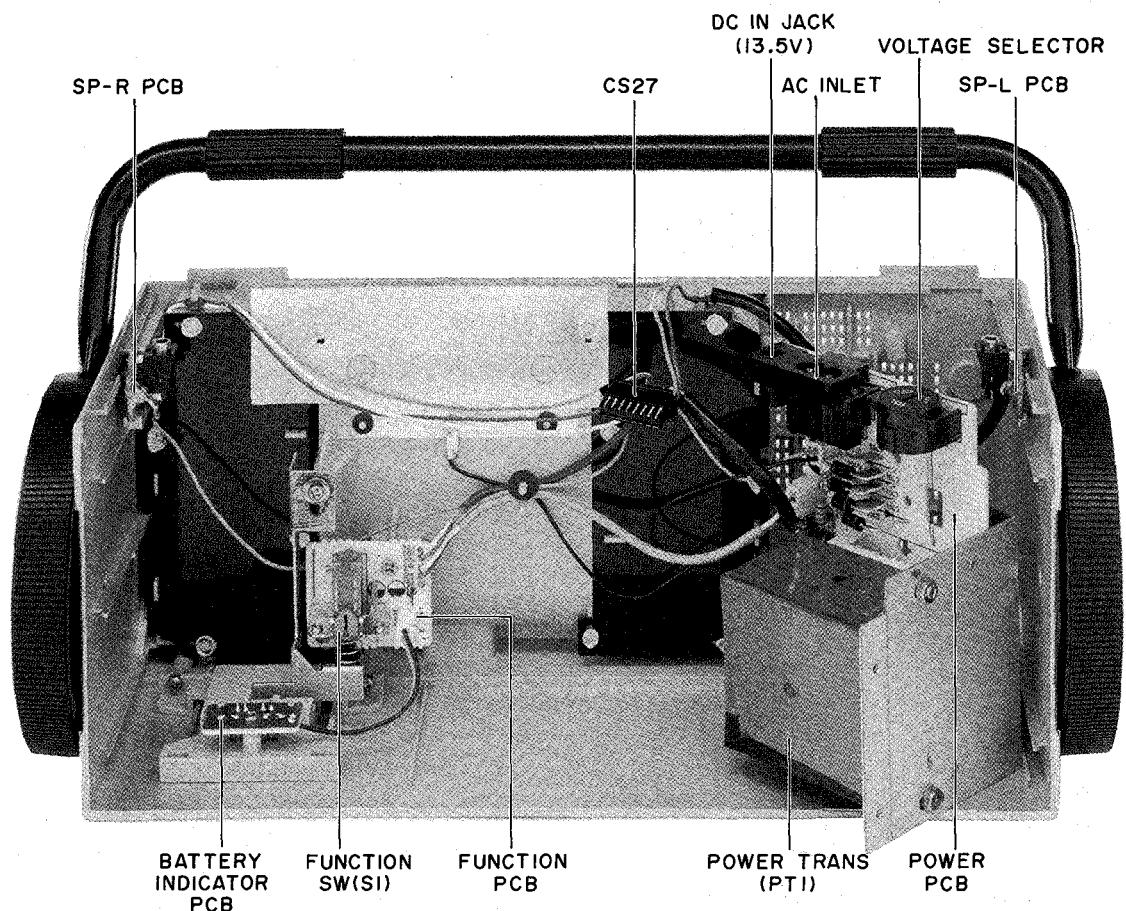


Fig. 4-2

## V. REPLACEMENT OF THE DIAL CORD

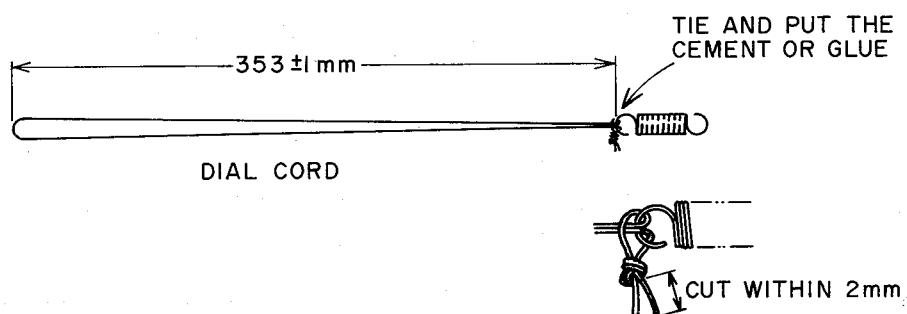
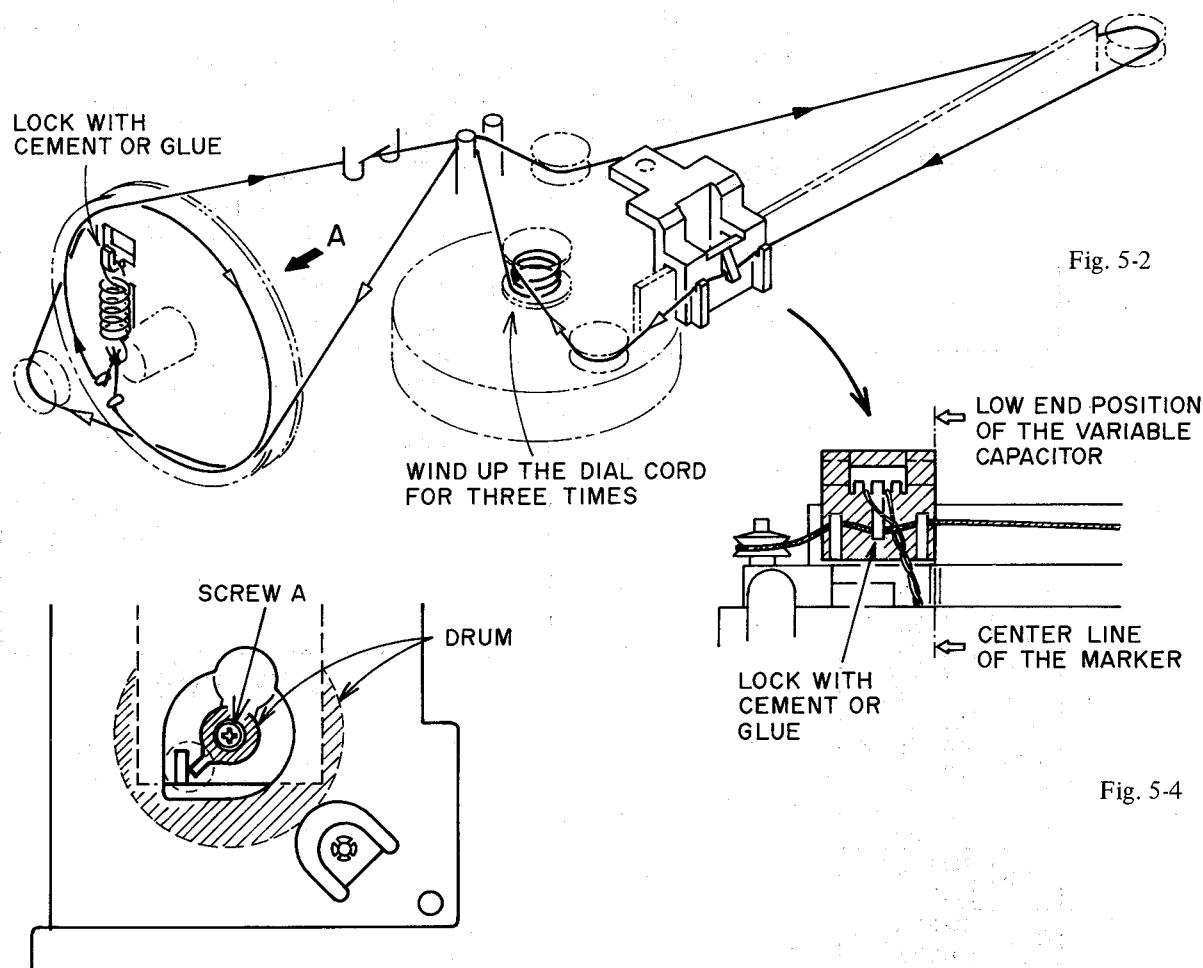


Fig. 5-1



VIEW FROM A  
(BRACKET SIDE)

Fig. 5-3

1. Build a Dial Cord as shown Fig. 5-1.
2. Take off a screw A, then Remove the Drum from the Variable Capacitor.
3. Set the Drum as shown Fig. 5-3, and make sure that the Variable Capacitor is fully clockwise.
4. Set the Dial Cord as shown Fig. 5-2.
5. Set Back the Drum to the Variable Capacitor with a screw A.
6. Turn the TUNING DIAL to low end, then set the Dial pointer as shown Fig. 5-4.

## VI. TUNER ADJUSTMENT

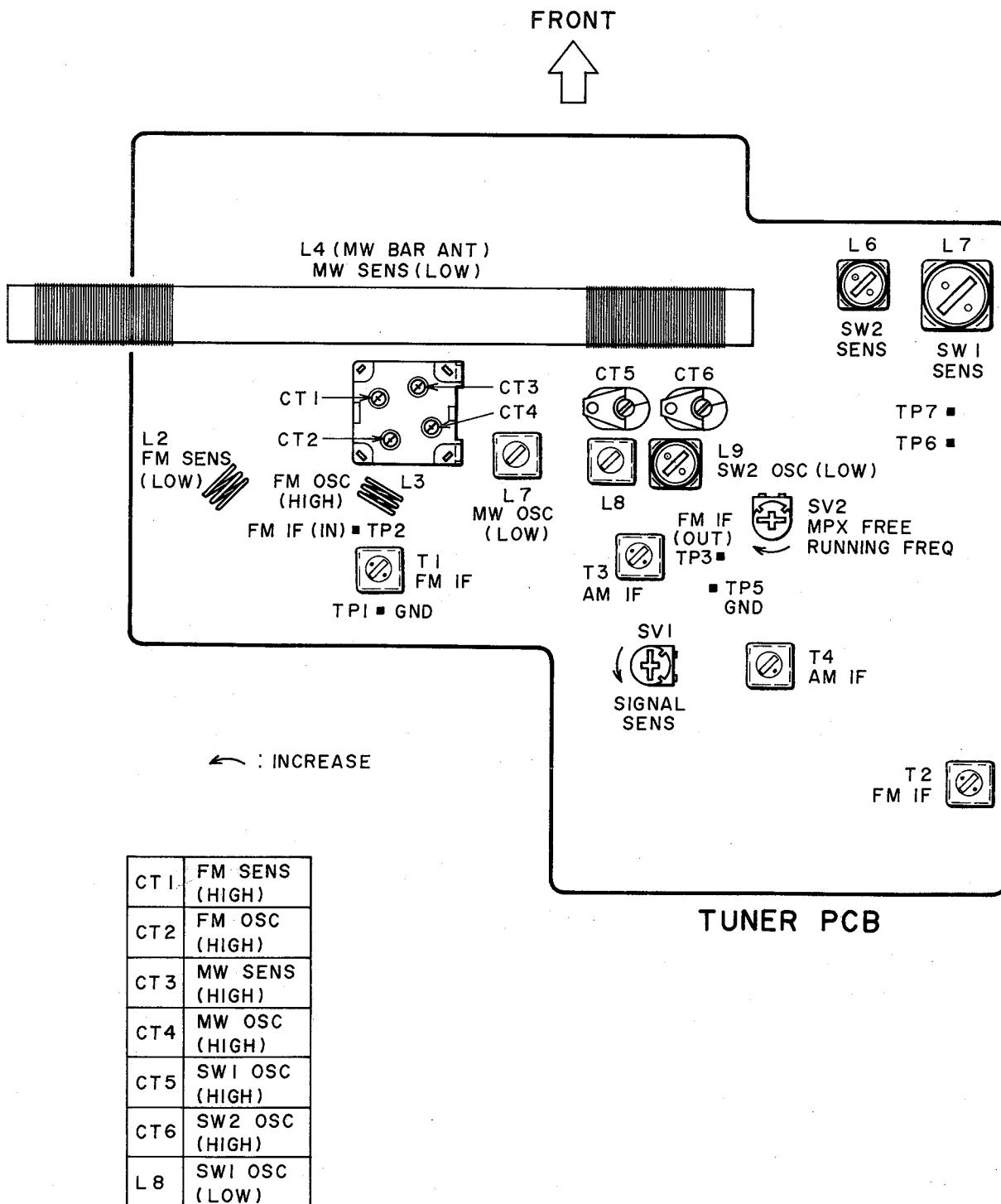


Fig. 6-1 Tuner Adjustment Point

## 6-1 MW SECTION ADJUSTMENT (Refer to Figs. 6-1 & 6-2)

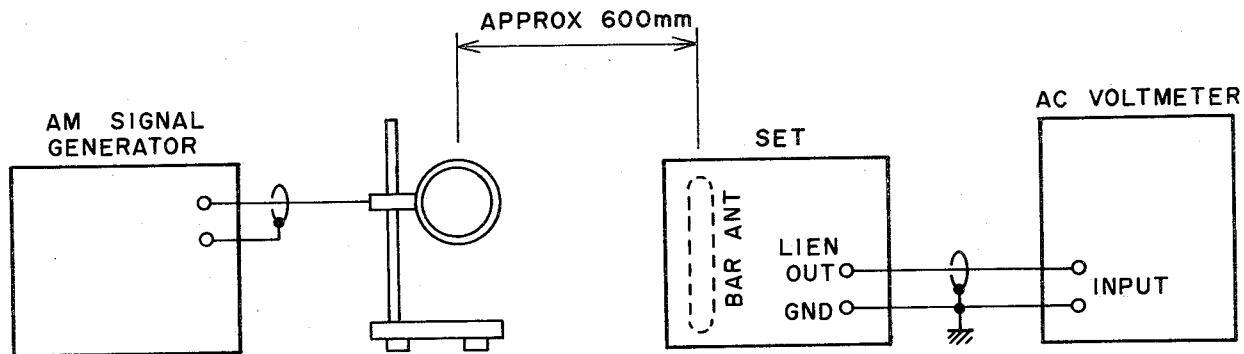


Fig. 6-2 MW Adjustment

Step	Adjustment Item	Test Point	Adjustment Point	Result	Remarks
1	AM IF	LINE OUT	T3, T4	Maximum output	<ul style="list-style-type: none"> <li>○ Set BAND SELECTOR to MW</li> <li>○ 460 kHz from SSG</li> <li>○ Tuning knob fully clockwise</li> </ul>
2	MW OSC (LOW)	LINE OUT	L7	Maximum output	<ul style="list-style-type: none"> <li>○ 515 kHz from SSG</li> <li>○ Tuning knob fully clockwise</li> </ul>
3	MW OSC (HIGH)	LINE OUT	CT-4	Maximum output	<ul style="list-style-type: none"> <li>○ 1650 kHz from SSG</li> <li>○ Tuning knob fully counter clockwise</li> </ul>
4	For best Result, Repeat Step 2 and 3, two or three times				
5	Sensitivity (LOW)	LINE OUT	L4 (MW BAR ANT) (See NOTE 2)	Maximum output	<ul style="list-style-type: none"> <li>○ 600 kHz from SSG</li> <li>○ Tune to signal</li> </ul>
6	Sensitivity (HIGH)	LINE OUT	CT-3	Maximum output	<ul style="list-style-type: none"> <li>○ 1400 kHz from SSG</li> <li>○ Tune to Signal</li> </ul>
7	For best Result, Repeat Step 2 and 3, two or three times				

NOTES: 1. Generator modulation . . . 400 Hz, 30%  
2. Adjust space between small coil and large coil, by moving small coil.

## 6-2 SW SECTION ADJUSTMENT (Refer to Figs. 6-1 & 6-3)

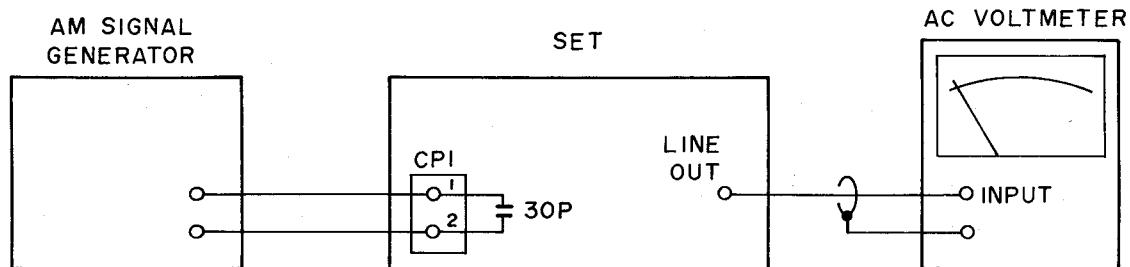


Fig. 6-3 SW Adjustment

Step	Adjustment Item	Test Point	Adjustment Point	Result	Remarks
1	SW1 OSC (LOW)	LINE OUT	L8	Maximum output	<ul style="list-style-type: none"> <li>○ Set BAND SELECTOR to SW1</li> <li>○ 2.8 MHz from SSG</li> <li>○ Tuning knob fully clockwise</li> </ul>
2	SW1 OSC (HIGH)	LINE OUT	CT-5	Maximum output	<ul style="list-style-type: none"> <li>○ 8.2 MHz from SSG</li> <li>○ Tuning knob fully counter clockwise</li> </ul>
3	For best Result, Repeat Step 1 and 2, two or three times				
4	SW1 Sensitivity	LINE OUT	L5	Maximum output	<ul style="list-style-type: none"> <li>○ 3.0 MHz from SSG</li> <li>○ Tune to signal</li> </ul>
5	SW2 OSC (LOW)	LINE OUT	L9	Maximum output	<ul style="list-style-type: none"> <li>○ Set BAND SELECTOR to SW2</li> <li>○ 7.8 MHz from SSG</li> <li>○ Tuning knob fully clockwise</li> </ul>
6	SW2 OSC (HIGH)	LINE OUT	CT-6	Maximum output	<ul style="list-style-type: none"> <li>○ 23.0 MHz from SSG</li> <li>○ Tuning knob fully counter clockwise</li> </ul>
7	For best Result, Repeat Step 5 and 6, two or three times				
8	SW2 Sensitivity	LINE OUT	L6	Maximum output	<ul style="list-style-type: none"> <li>○ 8.0 MHz from SSG</li> <li>○ Tune to signal</li> </ul>

NOTE: Connect capacitor (30 pF) between CP1 ① and CP1 ② before SW Section adjustment.

### 6-3 FM SECTION ADJUSTMENT (Refer to Figs. 6-1, 6-4 & 6-5)

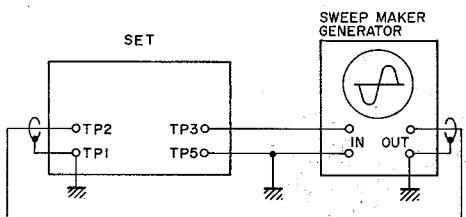


Fig. 6-4 FM IF Adjustment

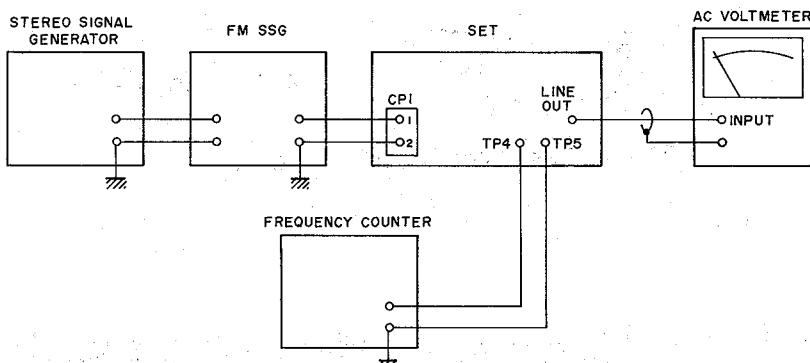


Fig. 6-5 FM Adjustment and Stereo Adjustment

Step	Adjustment Item	Test Point	Adjustment Point	Result	Remarks
1	FM IF	TP3	T1, T2	 Maximum S Curve waveform (upper/lower waveform symmetry)	<ul style="list-style-type: none"> <li>○ Set BAND SELECTOR to FM.</li> <li>○ 10.7 MHz from SSG</li> <li>○ Tuning knob fully clockwise</li> </ul>
2	FM OSC (LOW)	LINE OUT	L3	Maximum output	<ul style="list-style-type: none"> <li>○ 87.3 MHz from SSG</li> <li>○ Tuning knob fully clockwise</li> </ul>
3	FM OSC (HIGH)	LINE OUT	CT-2	Maximum output	<ul style="list-style-type: none"> <li>○ 108.5 MHz from SSG</li> <li>○ Tuning knob fully counter clockwise</li> </ul>
4	For best Result, Repeat Step 2 and 3, two or three times				
5	Sensitivity (LOW)	LINE OUT	L2	Maximum output	<ul style="list-style-type: none"> <li>○ 90.0 MHz from SSG</li> <li>○ Tune to signal</li> </ul>
6	Sensitivity (HIGH)	LINE OUT	CT-1	Maximum output	<ul style="list-style-type: none"> <li>○ 106 MHz from SSG</li> <li>○ Tune to signal</li> </ul>
7	For best Result, Repeat Step 5 and 6 two or three times				
8	MPX Free Running Frequency	TP4 (Connect TP3 to TP5)	SV-2	19 kHz ± 0.1 kHz	<ul style="list-style-type: none"> <li>○ Set FM MODE to STEREO</li> <li>○ Connect a Frequency counter between TP4 and TP5 (GND).</li> </ul>
9	Signal LED Sensitivity		SV-1	Light left LED	<ul style="list-style-type: none"> <li>○ 98 MHz, 19 dBμ from SSG</li> <li>○ Tune to signal</li> </ul>

NOTE: Set the internal modulation signal generator to 22.5 kHz deviation, 400 Hz.

## VII. MECHANICAL ADJUSTMENTS

### 7-1 TAPE SPEED ADJUSTMENT (Refer to Fig. 7-1)

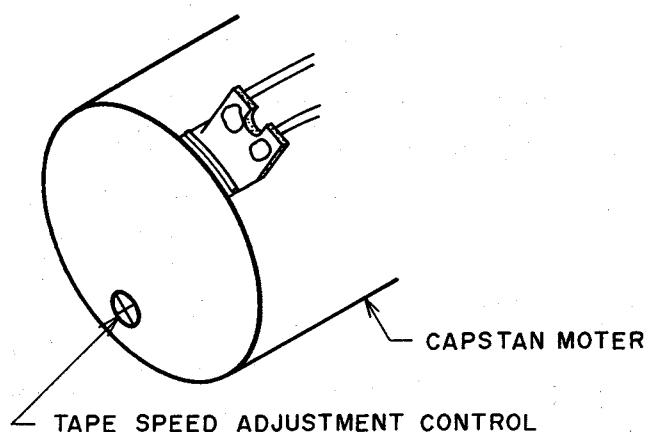


Fig. 7-1

Connect a frequency counter to line output terminals. Playback a 1,000 Hz Tape Speed Test tape (AT-750774)

and adjust a tape speed adjustment volume (see Fig. 7-1) to obtain a tape speed of 990 Hz to 1,000 Hz.

### 7-2 REC/PB HEAD AZIMUTH ALIGNMENT (Refer to Fig. 7-2)

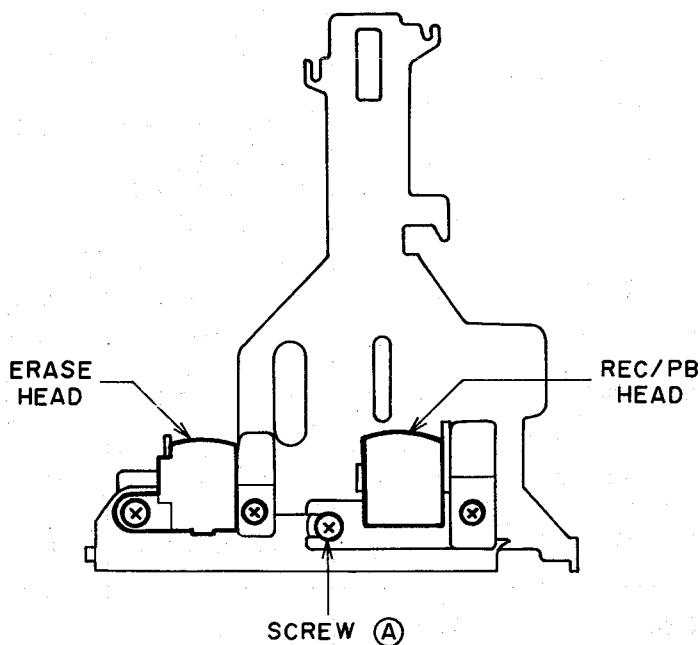


Fig. 7-2 Top View of the Heads

Playback a 10 kHz Azimuth Alignment tape (AT-750778) and adjust the screw **A** until the output levels of both channels are maximum. After adjustment, point lock the screw **A**.

NOTES: 1. Be sure to clean the heads prior to head adjustment.

2. Be careful not to use a magnetized driver or other magnetized tools in the vicinity of the heads.
3. Be sure to demagnetize the heads with a Head Demagnetizer before and after head adjustment.

## VIII. AMPLIFIER ADJUSTMENT

### 8-1 AMPLIFIER ADJUSTMENT POINT

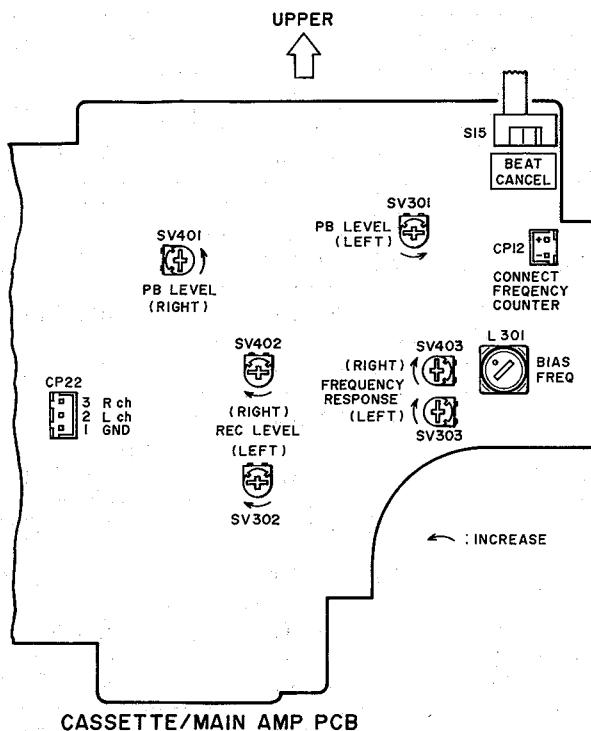


Fig. 8-1

Step	Adjustment Item	Test Tape and Supply Signal	Mode	Adjustment Point	Test Point	Result and Remarks
1	P.B level	333 Hz	P.B	SV301 (L) SV401 (R)	CP22 Pin ② (Lch) Pin ③ (Rch)	○ 580 mV ± 20 mV
2	Bias Frequency		REC	L301	CP12 Pin ① (Signal) Pin ② (GND)	○ SET BEAT CUT SW to 2 ○ Connect Frequency Counter ○ 60.5 kHz ± 0.1 kHz
3	Frequency Response	CrO <sub>2</sub> Blank Tape 1 kHz, 10 kHz -33 dBm Recording	REC/PB	SV303 (L) SV403 (R)	LINE OUT	○ 1 kHz to 10 kHz Levels are within ±3 dB ○ Dolby NR "ON" ○ See NOTE 2
4	Rec level	CrO <sub>2</sub> Blank Tape 400 Hz -15.5 dBm Recording	REC/PB	SV302 (L) SV402 (R)	LINE OUT	○ -15.5 dBm ± 0.5 dB ○ See NOTE 3

NOTES: 1. Use the following cassette measuring tapes.

Normal Tape : Maxell UD C-60  
CrO<sub>2</sub> Tape : TDK SA C-60  
Metal Tape : TDK MA C-60

2. The confirmation at Normal and Metal position level should be made.
3. The confirmation at Normal and Metal position level will be -15.5 dBm ± 1.0 dB

## IX. CLASSIFICATION OF VARIOUS P.C BOARDS

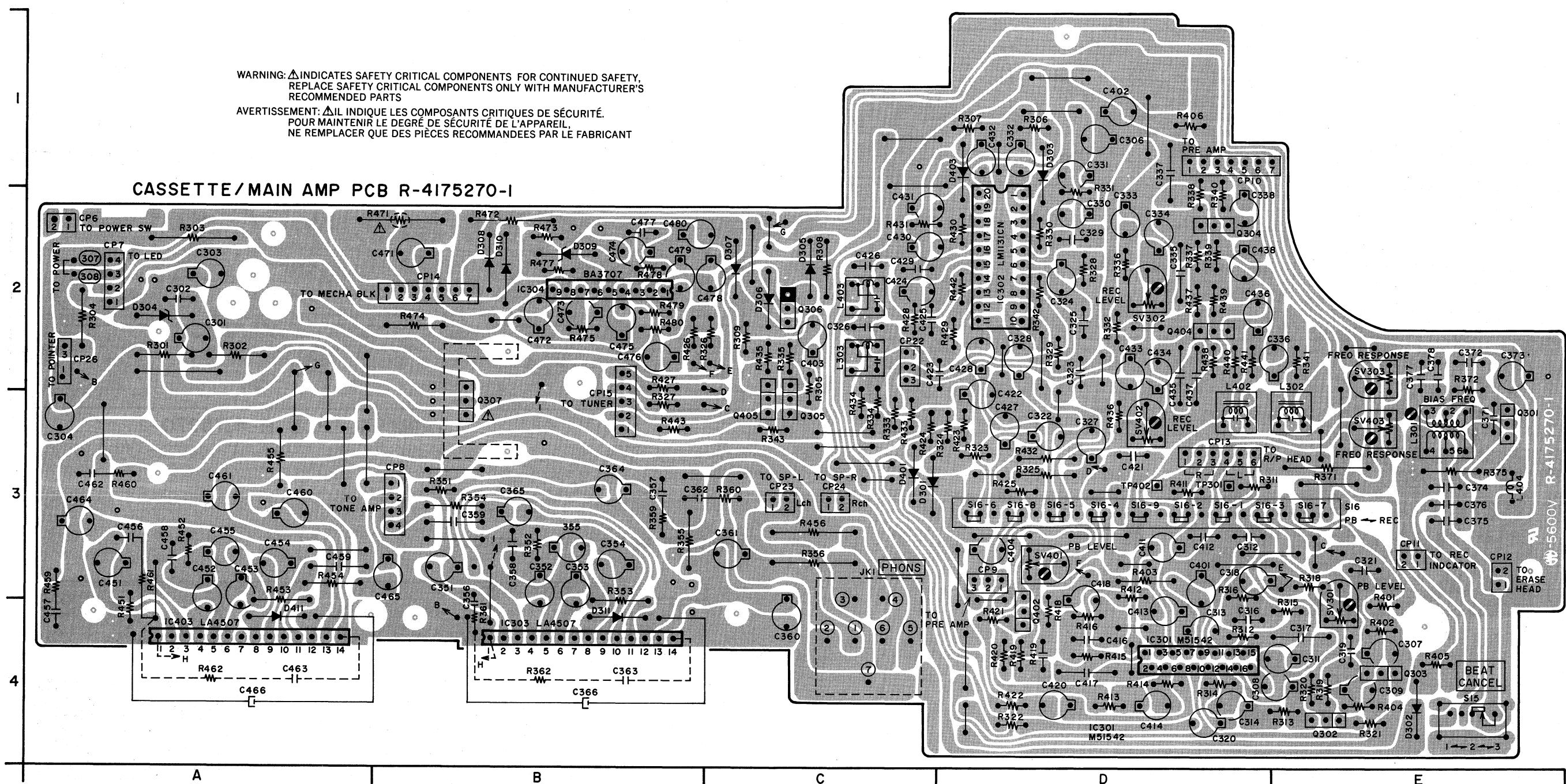
### 9-1 P.C BOARD TITLE AND IDENTIFICATION NUMBERS

P.C Board Title	P.C BOARD NUMBER
CASSETTE/MAIN AMP P.C BOARD	R-4175270-1
TUNER P.C BOARD	R-4175271-1
TONE P.C BOARD	R-4175272-2
PRE AMP, EQ P.C BOARD	R-4175272-1
TERMINAL P.C BOARD	R-4175270-2
POWER P.C BOARD	R-4175273 [U]
POWER P.C BOARD	R-4175337 [S] [A]
POWER P.C BOARD	R-4175483 [C]
LED P.C BOARD	R-4175271-2
POWER SW P.C BOARD	R-4175270-3
BAT IND P.C BOARD	R-4175270-4
SP- L P.C BOARD	R-4175271-4
SP- R P.C BOARD	R-4175271-3
REC IND P.C BOARD	R-4175270-5
POINTER P.C BOARD	R-4175270-6

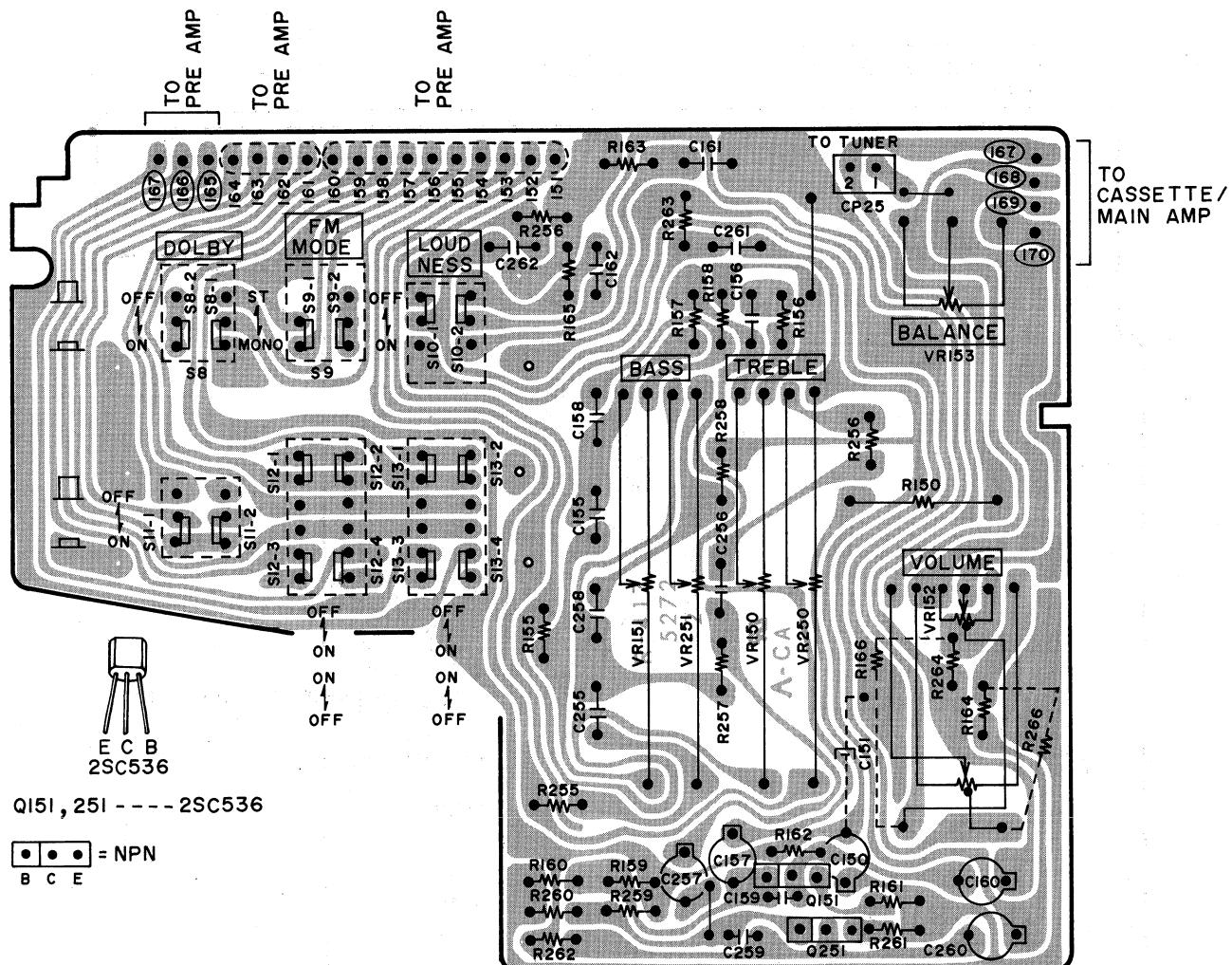


## 9-2 COMPOSITION OF VARIOUS P.C BOARDS

### 1) CASSETTE/MAIN AMP P.C BOARD R-4175270-1

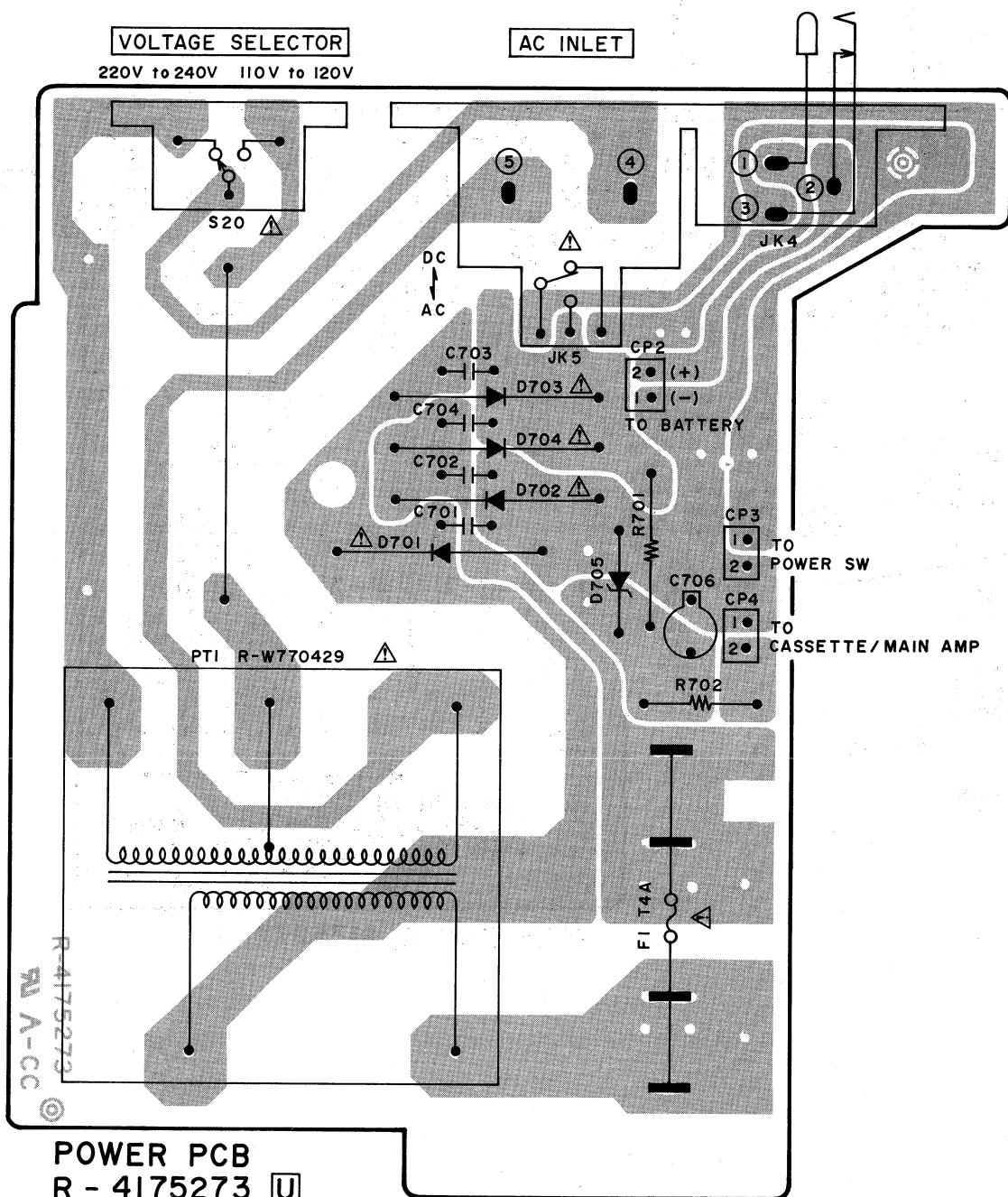


5) TONE P.C BOARD R-4175272-2



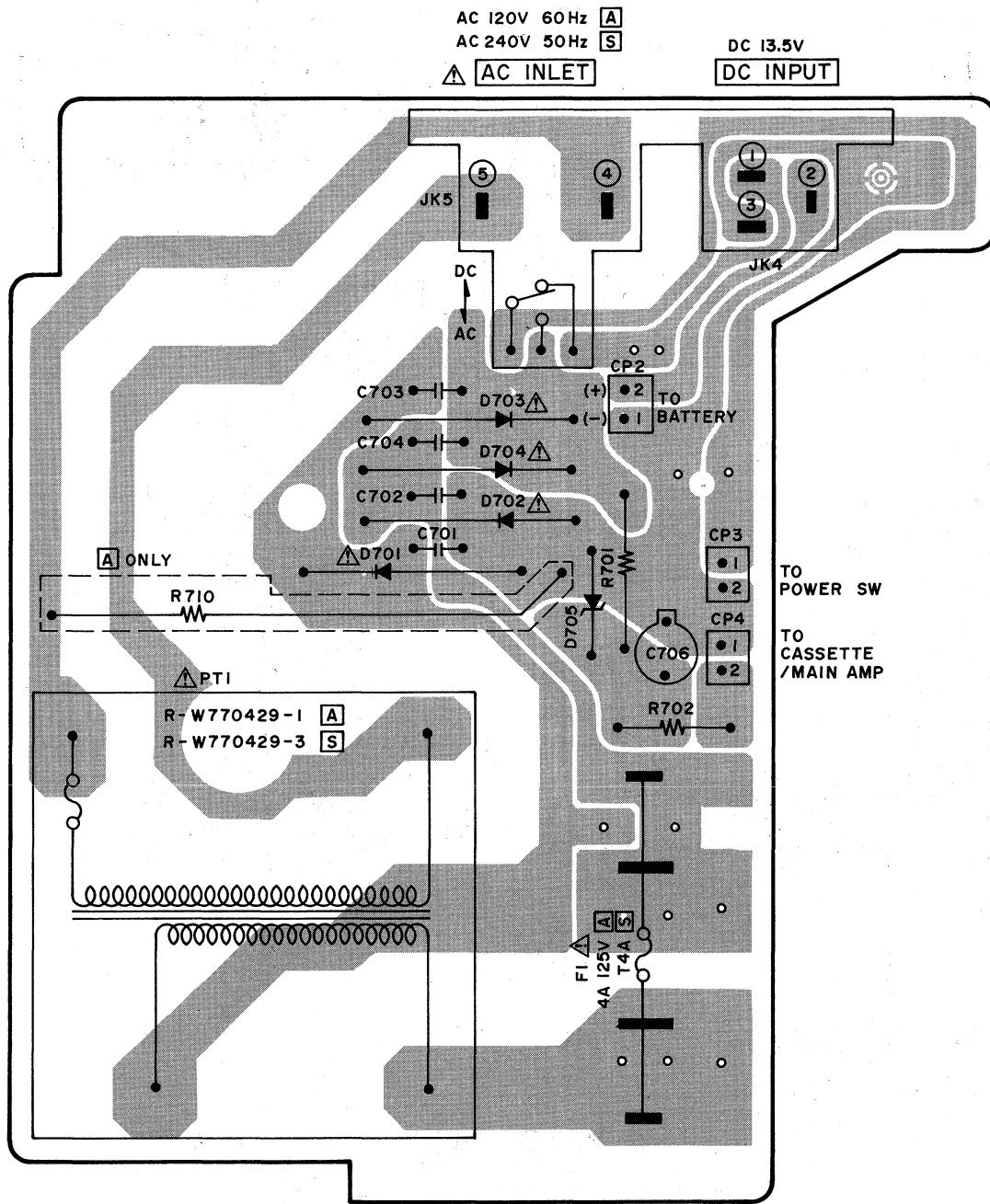
TONE PCB R-4175272-2

6) POWER P.C BOARD R-4175273 [U], R-4175337 [A] [S] and R-4175483 [C]



WARNING: INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,  
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S  
RECOMMENDED PARTS

AVERTISSEMENT: IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.  
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,  
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT



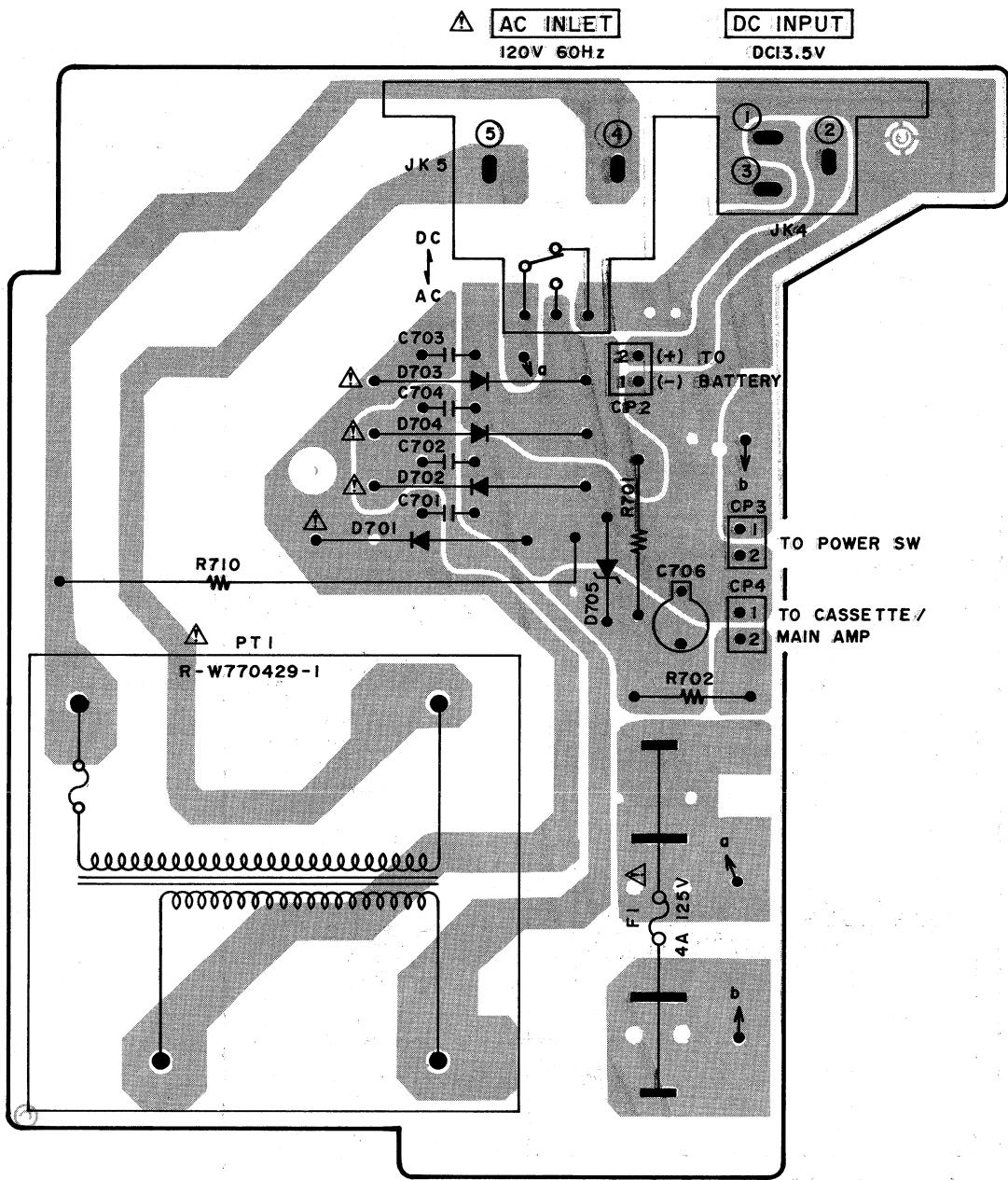
**POWER PCB R-4175337**

**A MODEL**

**S MODEL**

**WARNING:**  $\triangle$  INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,  
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S  
RECOMMENDED PARTS

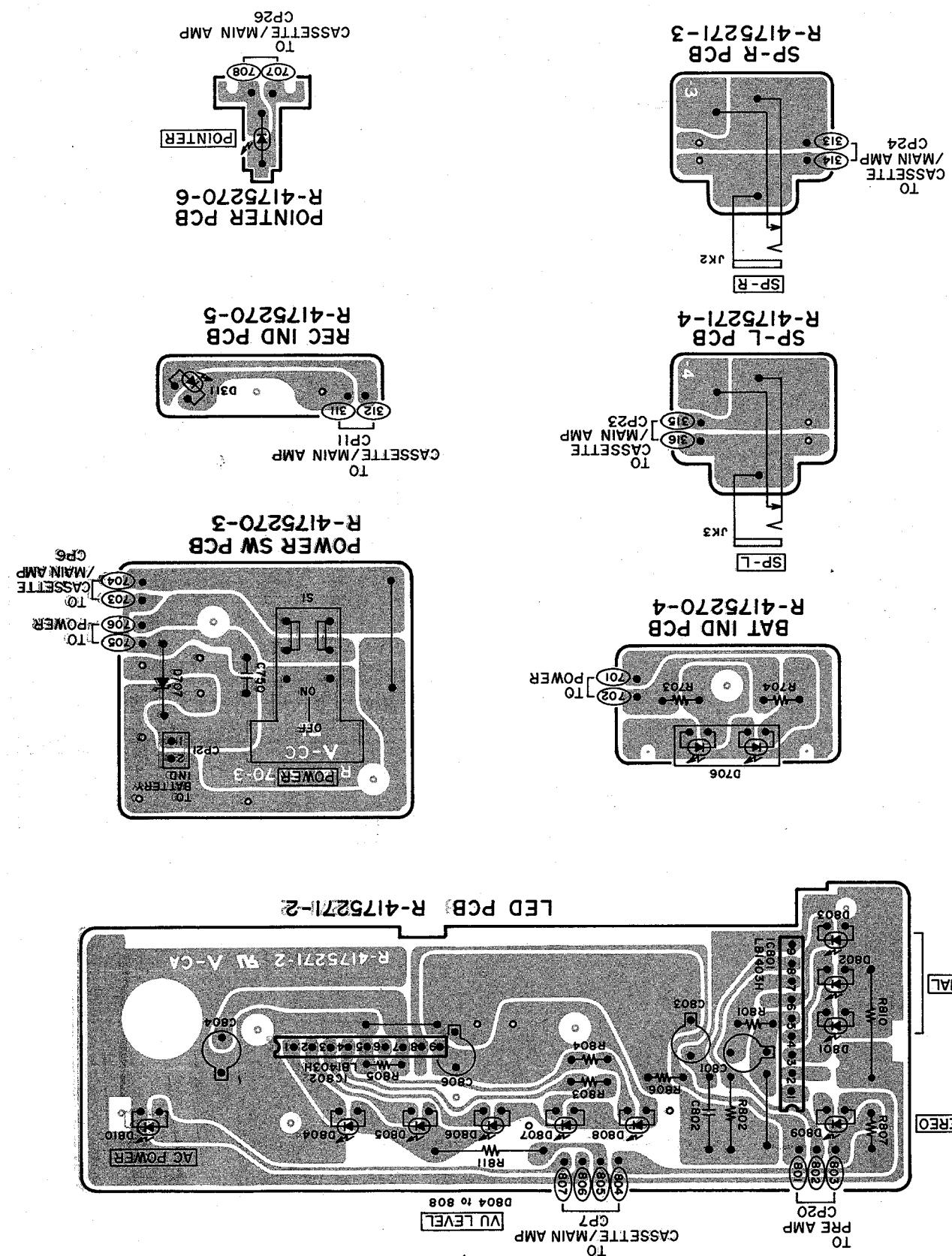
**AVERTISSEMENT:**  $\triangle$  INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.  
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,  
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT



**POWER PCB R-4175483 C MODEL**

WARNING: INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,  
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S  
RECOMMENDED PARTS

AVERTISSEMENT: IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.  
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,  
NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT



## 7) OTHER P.C BOARDS

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### SECTION 3

## **SCHEMATIC DIAGRAM**

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## SECTION 2

# PARTS LIST

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Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

## ATTENTION

1. When placing an order for parts, be sure to list the parts no., model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Parts List may be partially changed, please use this parts list for all future reference.

## HOW TO USE THIS PARTS LIST

1. This Parts List shows the parts that are considered necessary for repairs. Other parts, such as resistors and capacitors, are shown in the "Common List for Service Parts". Select and order such parts from the "Common List for Service Parts".
2. The Recommended Spare Parts shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not be supplied in principle.
4. How to read list

a) Mechanism Block

b) P.C Board Block

## 2. HEAD BASE BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK GX-F66R
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20x03STL CMT
2-4	ZS-536488	BID20x08STL CMT
2-5	ZG-402895	CS ANGLE ADJUST SPRING

SP (Service Parts) Classification

A small "x" indicates the inability to show that particular part in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure

This number corresponds with the Figure Number

## 6. SYS. CON. P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
6-1	BA-T2034A070A	PC SYS CON BLK GX-F44R
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-IC3	EI-331661	IC SN7405N
6-IC4	EI-336725	IC M54527P
6-TR1to4	ET-200985	TR 2SC2603 F,G
6-TR5to28	ET-554657	TR 2SA733A P,Q
6-D1	ED-318292	D SILICON H 1S2473T-77 T26
6-D2to4	ED-308952	D GERMA V 1K34A-LR F07
6-D5to10	ED-318292	D SILICON H 1S2473T-77 T26
6-X1	EI-318384	OSC X'TAL NC-18C 3.579545MHZ

SP (Service Parts) Classification

This reference numbers corresponds with symbol numbers of Schematic Diagrams.

5. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List. It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index.

## WARNING

△ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

## AVERTISSEMENT

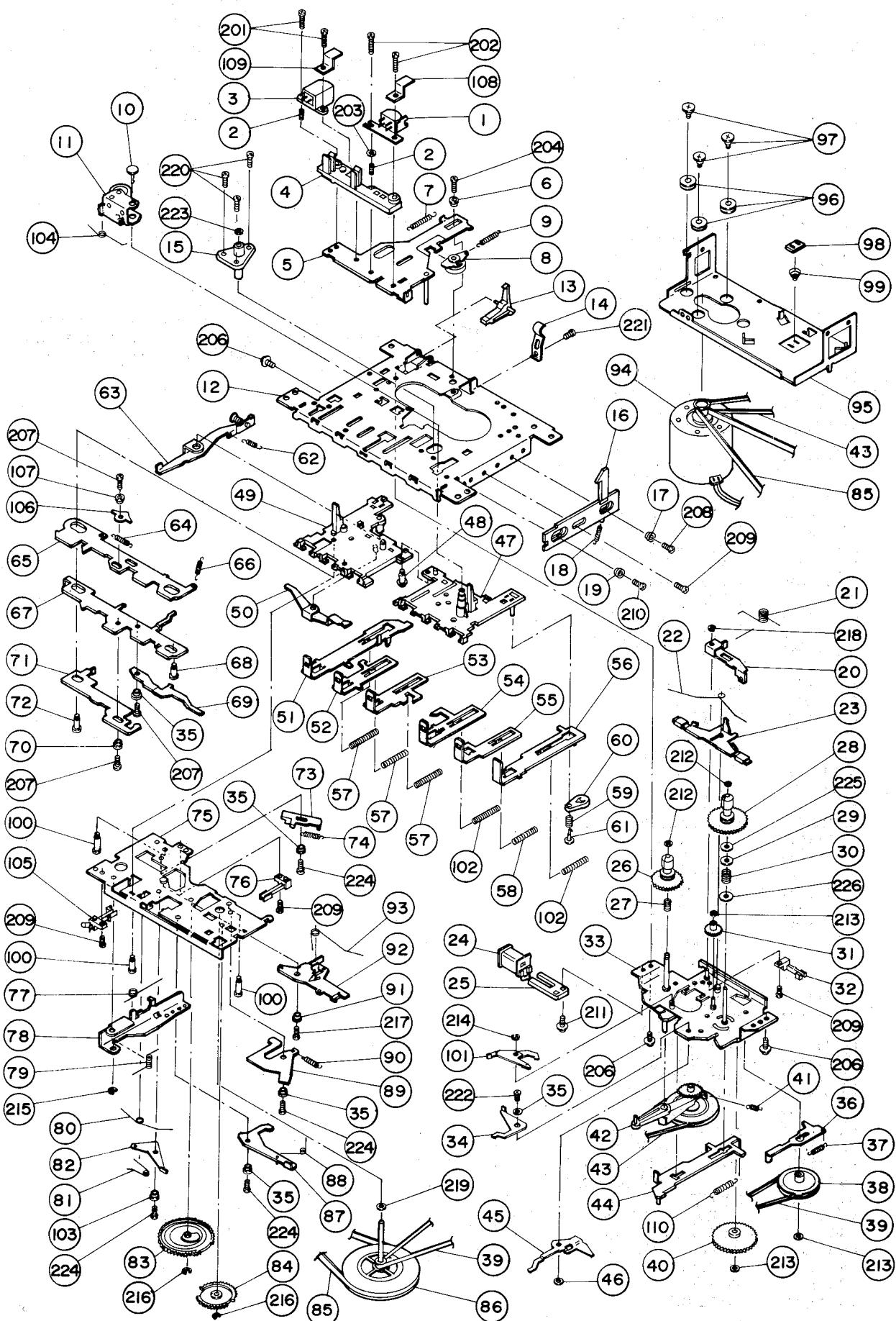
△ IL INDIQUE LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDÉES PAR LE FABRICANT.

## RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

NO.	PARTS NO.	DESCRIPTION	NO.	PARTS NO.	DESCRIPTION
1	BB-711920	MECHA BLK PJ-33	71	ET-322244	TR 2SA608K-NP F,G
2	BF-712092	FLYWHEEL BLK	72	ET-403413	TR 2SC536NP H
3	BL-712054	ARM PINCH ROLLER BLK	73	ET-328265	TR 2SC930 F
4	BL-712076	ARM RF CLUTCH BLK	74	ET-310148	TR 2SD612K E,F
5	BM-711921	MOTOR (W/PULLEY)	75	ET-200986	TR 2SD863-V8 F
6	BR-712065	SUPPLY REEL BLK	76	EV-711963	VR ROTARY 2 THROW 503
7	BR-712132	TAKE UP REEL BLK	77	EV-711964	VR ROTARY 204
8	BT-711997	△ TRANS POWER (U)	78	EV-711962	VR SLIDE 2 THROW 104
9	BT-712702	△ TRANS POWER (S)	79	HE-711924	HEAD E
10	BT-712705	△ TRANS POWER (C,A)	80	HP-711923	HEAD R/P
11	ED-561286	D GERMA. H 1S188AM	81	MB-711926	BELT COUNTER
12	ED-712005	D LED LN347GP	82	MB-712074	BELT FULL AUTO
13	ED-712004	D LED SLP 145B	83	MB-712136	BELT MAIN
14	ED-711996	D LED SLP-144B	84	MB-712077	BELT RF
15	ED-711995	D LED SLP-244B	85	MC-711925	COUNTER TAPE
16	ED-711994	D LED SLP-444B	86	MI-712075	GEAR CAM
17	ED-701756	D LED SLP151B RED	87	MI-712070	GEAR FF
18	ED-332243	D LED SLP171D RED	88	MI-712089	GEAR M
19	ED-701757	D LED SLP251B GRN	89	MI-712090	GEAR P
20	ED-336805	D SILICON DS135D-KB1 200/1.0A	90	SS-712266	PASSIVE RADIATOR S09D01
21	ED-330324	D SILICON DS442xBT T26	91	SS-712265	SPEAKER S04H31 7 OHMS 15W
22	ED-711999	D SILICON S2V20	92	SS-712267	SPEAKER S09K09 8 OHMS 15W
23	ED-711959	D SILICON 1S553			
24	ED-710888	D ZENER GZA3R6Y			
25	ED-712000	D ZENER GZA5R1X			
26	ED-711985	D ZENER GZA6R2X			
27	ED-711970	D ZENER H GZA8R22			
28	ED-317690	D ZENER H RD7.5E B1			
29	EE-711936	VC POLY			
30	EF-690996	△ FUSE SEMKO T 250V 4.00A			
31	EH-711941	FILTER CE 10.7MHZ			
32	EH-711951	FILTER CE 460KHZ			
33	EI-711984	IC BA3707			
34	EI-711957	IC BA4220A			
35	EI-711958	IC LA3361A			
36	EI-711969	IC LA4507			
37	EI-711993	IC LB1403H			
38	EI-711979	IC LM1131CN			
39	EI-711992	IC M51521L			
40	EI-711976	IC MS1542L			
41	EI-711956	IC TA7358P			
42	EJ-712261	△ SOCKET INLET AC/DC			
43	EO-711942	COIL ANT MW			
44	EO-711943	COIL ANT SW1			
45	EO-711945	COIL ANT SW2			
46	EO-711971	COIL CHOKE			
47	EO-711981	COIL CHOKE 300UH			
48	EO-711952	COIL FILTER			
49	EO-711978	COIL FILTER			
50	EO-711940	COIL IFT			
51	EO-711948	COIL IFT AM			
52	EO-711949	COIL IFT AM			
53	EO-712264	COIL IFT FM			
54	EO-711980	COIL OSC BIAS			
55	EO-711946	COIL OSC SW1			
56	EO-711947	COIL OSC SW2			
57	EO-707224	COIL OSC 2			
58	EO-711973	COIL TRAP			
59	EO-711938	COIL VHF			
60	ES-711998	△ SW ROTARY (U)			
61	ES-712071	SW LEAF MSW-1275			
62	ES-712086	SW LEAF MSW-1412TNBK			
63	ES-712257	SW LEAF MSW-1412TNK			
64	ES-712002	SW PUSH			
65	ES-711965	SW PUSH 3 THROW			
66	ES-711967	SW PUSH 3 THROW			
67	ES-711954	SW PUSH 6 THROW			
68	ES-711972	SW SLIDE			
69	ES-711982	SW SLIDE			
70	ES-711989	SW SLIDE			

MECHA BLOCK



- PARTS LIST PJ-33 FS -

## 1. MECHA BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
1-x	BB-711920	MECHA BLK PJ-33
1-1	HP-711923	HEAD R/P
1-2	ZG-712046	SP HEAD
1-3	HE-711924	HEAD E
1-4	HZ-712047	BASE HEAD
1-5	HZ-712048	CHASSIS HEAD PART
1-6	ZW-712049	COLLAR CHASSIS
1-7	ZG-712050	SP HEAD CHASSIS
1-8	MR-712051	TAKE UP ROLLER SHAFT BLK
1-9	ZG-712052	SP TAKE UP ROLLER
1-10	ZW-712053	STOPPER FUNCTION LEVER
1-11	BL-712054	ARM PINCH ROLLER BLK
1-13	ML-712055	LEVER REC SAFETY
1-14	ZG-712131	SP RACK HOLD
1-15	MV-712057	METAL FLYWHEEL
1-16	ML-712058	LEVER EJECT SLIDE
1-17	ZW-712059	COLLAR
1-18	ZG-712060	SP EH BASE
1-19	ZW-712262	COLLAR
1-22	ZG-712061	SP BRAKE
1-23	BL-712062	ARM BRAKE BLK
1-24	EP-712063	COIL BLK
1-25	EP-712064	CORE B
1-26	BR-712065	SUPPLY REEL BLK
1-27	ZG-712066	SP BACK TENSION
1-28	BR-712132	TAKE UP REEL BLK
1-29	MR-712068	SENSING PIECE
1-30	ZG-712069	SP SENSING PIECE
1-31	MI-712070	GEAR FF
1-32	ES-712071	SW LEAF MSW-1275
1-36	ML-712072	LEVER SENSING
1-38	MR-712073	PULLEY
1-39	MB-712074	BELT FULL AUTO
1-40	MI-712075	GEAR CAM
1-42	BL-712076	ARM RF CLUTCH BLK
1-43	MB-712077	BELT RF
1-57	ZG-712133	SP BUTTON LEVER
1-58	ZG-712079	SP BUTTON LEVER
1-59	ZG-712134	SP PAUSE LEVER
1-60	ML-712081	LEVER PAUSE
1-61	ZW-712082	STOPPER P
1-64	ZG-712083	SP SW FUNCTION PLATE
1-66	ZG-712084	SP BUTTON FUNCTION PLATE
1-74	ZG-712085	SP AUTO LEVER
1-76	ES-712086	SW LEAF MSW-1412TNBK
1-80	ZG-712087	SP M GEAR
1-81	ZG-712088	SP M TRIGGER ARM
1-83	MI-712089	GEAR M
1-84	MI-712090	GEAR P
1-85	MB-712136	BELT MAIN
1-86	BF-712092	FLYWHEEL BLK
1-88	ZG-712093	SP P TRIGGER ARM
1-94	BM-711921	MOTOR (W/PULLEY)
1-96	MB-712094	RUBBER MOTOR
1-97	ZS-712095	S SPL
1-98	MZ-712096	HOLD PLATE FL
1-99	ZG-712097	SP DAMPER
1-102	ZG-712098	SP BUTTON LEVER
1-104	ZG-712099	SP PINCH ROLLER
1-105	ES-712257	SW LEAF MSW-1412TNK
1-201	ZS-712137	PAN20×08STL CMT
1-202	ZS-712103	PAN20×07ST CMT
1-212	ZW-712104	PW16×038×030PSL
1-213	ZW-712105	PW12×030×025PSL
1-216	ZW-712106	RING E 200
1-219	ZW-712107	PW22×038×040PSL
1-220	ZS-712108	CTS20×03 CAMERA
1-223	ZW-712109	PW20×050×050NYL
1-225	ZW-712100	PW21×090×013PSL
1-226	ZW-712101	PW52×080×013PSL

NOTE: Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

## 2. TUNER P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1	BD-711935	PC TUNER BLK PJ-33FS
2-IC1	EI-711956	IC TA7358P
2-IC2	EI-711957	IC BA4220A
2-IC3	EI-711958	IC LA3361A
2-Q1,3	ET-328265	TR 2SC930 F
2-D1	ED-330324	D SILICON DS442xBT T26
2-D2	ED-711959	D SILICON 1S553
2-D3	ED-330324	D SILICON DS442xBT T26
2-D4	ED-562386	D GERMA H 1S188AM
2-D5to8	ED-330324	D SILICON DS442xBT T26
2-D9	ED-710888	D ZENER GZA3R6Y
2-S2-7	ES-711954	SW PUSH 6 THROW
2-SVR1	EV-711953	R S-FIX 472
2-SVR2	EV-711950	R S-FIX 103
2-CF1,2	EH-711941	FILTER CE 10.7MHZ
2-CF3	EC-711951	FILTER CE 460KHZ
2-VC	EE-711936	VC POLY
2-L1	EO-711938	COIL VHF
2-L2,3	EO-711938	COIL VHF
2-L4	EO-711942	COIL ANT MW
2-L5	EO-711943	COIL ANT SW1
2-L6	EO-711945	COIL ANT SW2
2-L7	EO-707224	COIL OSC 2
2-L8	EO-711946	COIL OSC SW1
2-L9	EO-711947	COIL OSC SW2
2-L10,11	EO-711952	COIL FILTER
2-T1	EO-712264	COIL IFT FM
2-T2	EO-711940	COIL IFT
2-T3	EO-711948	COIL IFT AM
2-T4	EO-711949	COIL IFT AM
2-CT5,6	EC-707232	C S-FIX
2-C19	EC-711110	C STY 3750J 50DC
2-C62	EC-712255	C STY 102J 50DC

## 3. CASSETTE, MAIN AMP P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
3-1	BA-711968	PC CASSETTE, MAIN AMP BLK
3-IC301	EI-711976	IC M51542L
3-IC302	EI-711979	IC LM1131CN
3-IC303	EI-711969	IC LA4507
3-IC304	EI-711984	IC BA3707
3-IC403	EI-711969	IC LA4507
3-Q301	ET-200986	TR 2SD863-V8 F
3-Q302to305	ET-403413	TR 2SC536NP H
3-Q306	ET-322244	TR 2SA608K-NP F,G
3-Q307	ET-310148	TR 2SD612K E,F
3-Q402	ET-403413	TR 2SC536NP H
3-Q404,405	ET-403413	TR 2SC536NP H
3-D301to303	ED-330324	D SILICON DS442xBT T26
3-D304	ED-711970	D ZENER H GZA8R22
3-D305to308	ED-330324	D SILICON DS442xBT T26
3-D309	ED-711985	D ZENER GZA6R2X
3-D310	ED-336805	D SILICON DS135D-KB1 200/1.0A
3-D311	ED-330324	D SILICON DS442xBT T26
3-D401,403	ED-330324	D SILICON DS442xBT T26
3-D411	ED-330324	D SILICON DS442xBT T26
3-S15	ES-711982	SW SLIDE
3-S16	ES-711972	SW SLIDE
3-SV301	EV-711975	R S-FIX 473
3-SV302	EV-711950	R S-FIX 103
3-SV303	EV-711983	R S-FIX 100K
3-SV401	EV-711975	R S-FIX 473
3-SV402	EV-711950	R S-FIX 103
3-SV403	EV-711983	R S-FIX 100K
3-L301	EO-711980	COIL OSC BIAS
3-L302	EO-711973	COIL TRAP
3-L303	EO-711978	COIL FILTER
3-L402	EO-711973	COIL TRAP
3-L403	EO-711978	COIL FILTER
3-L404	EO-711981	COIL CHOKE 300UH
3-R303	ER-303840	R OMF H FS 1W 470J
3-R371	ER-749298	R OMF H FS 1W 121
3-R471	ER-709269	R FUSE 1/2W 100K

## 4. TONE P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
4-1	BD-711961	PC TONE BLK
4-Q151,251	ET-403413	TR 2SC536NP H
4-S8	ES-711967	SW PUSH 3 THROW
4-S11	ES-711965	SW PUSH 3 THROW
4-VR150,151	EV-711962	VR SLIDE 2 THROW 104
4-VR152	EV-711963	VR ROTARY 2 THROW 503
4-VR153	EV-711964	VR ROTARY 204
4-R150	ER-341633	R OMF H SNP FS 1W 680J

## 5. PRE AMP/EQ P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
5-1	BD-711960	PC PRE AMP BLK
5-Q111,211	ET-403413	TR 2SC536NP H
5-L131,231	EO-711971	COIL CHOKE
5-R102	ER-315961	R OMF H SNP FS 2W 270J
5-R103	ER-416373	R OMF H 1W 221J

## 9. POWER SW P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
9-S1	ES-712002	SW PUSH
9-D707	ED-317690	D ZENER H RD7.5 E B1

## 6. LED P.C BAORD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
6-IC801,802	EI-711993	IC LB1403H
6-D801to803	ED-711995	D LED SLP-244B
6-D804to806	ED-701575	D LED SLP251B GRN
6-D807,808	ED-701756	D LED SLP151B RED
6-D809	ED-711996	D LED SLP-144B
6-D810	ED-711994	D LED SLP-444B
6-R811	ER-741978	R OMF 1W 820J

## 10. SP-L P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
10-JK2	EJ-711991	JACK

## 11. SP-R P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
11-JK3	EJ-711991	JACK

## 7. TERMINAL P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
7-1	BD-711986	PC TERMINAL BLK
7-IC501	EI-711992	IC M51521L
7-Q501	ET-403413	TR 2SC536NP H
7-S14	ES-711989	SW SLIDE
7-J1	EJ-711987	JACK 4P
7-JK6	EJ-711991	JACK

## 12. BATTERY IND P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
12-D706	ED-332243	D LED SLP171D RED

## 13. REC IND P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
13-D311	ED-712004	D LED SLP 145B

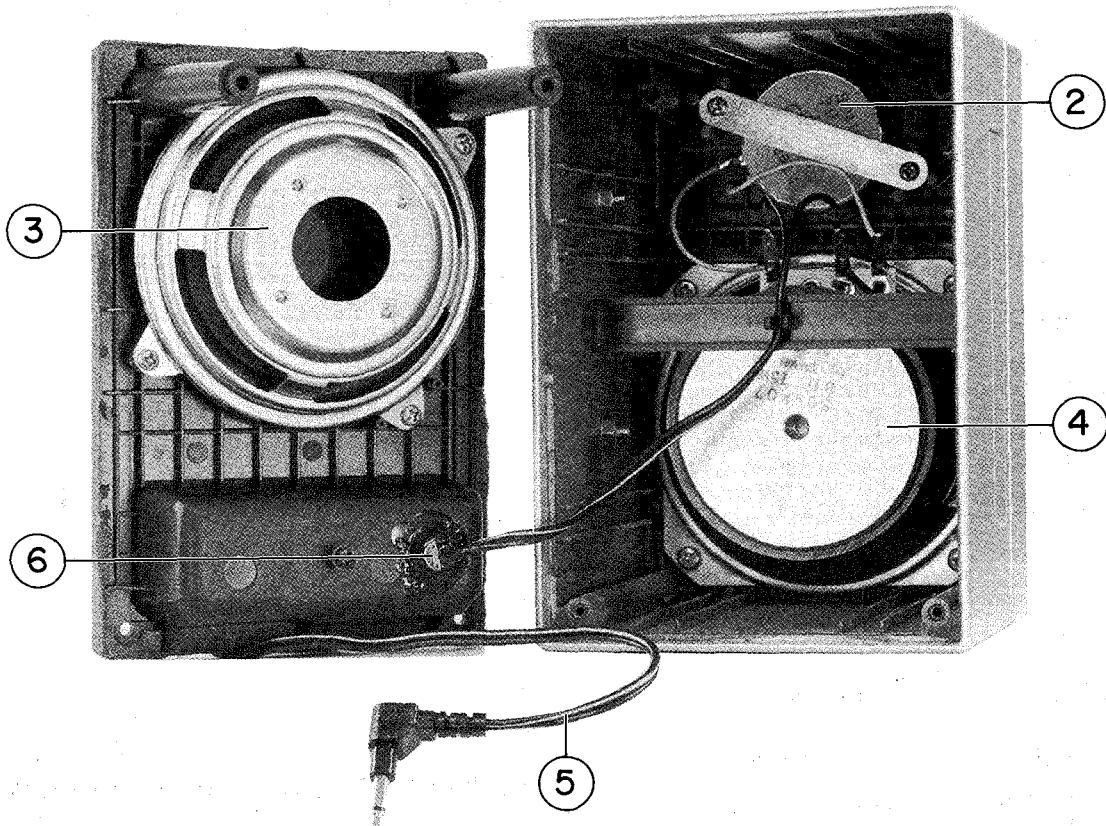
## 8. POWER P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
8-PT1U	BT-711997	△ TRANS POWER (U)
8-PT1C	BT-712705	△ TRANS POWER (C,A)
8-PT1S	BT-712702	△ TRANS POWER (S)
8-JK4	EJ-712261	△ SOCKET INLET AC/DC (U,S)
8-S20	ES-711998	△ SW ROTARY (U)
8-F1U	EF-690996	△ FUSE SEMKO T 250V 4.00A (U,S)
8-F1C	EF-378595	△ FUSE ST6 125V 4.00A (C,A)
8-D701to704	ED-711999	D SILICON S2V20
8-D705	ED-712000	D ZENER GZA5R1X
8-R701	ER-416373	R OMF H 1W 221J

## 14. POINTER P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
14-D708	ED-712005	D LED LN347GP

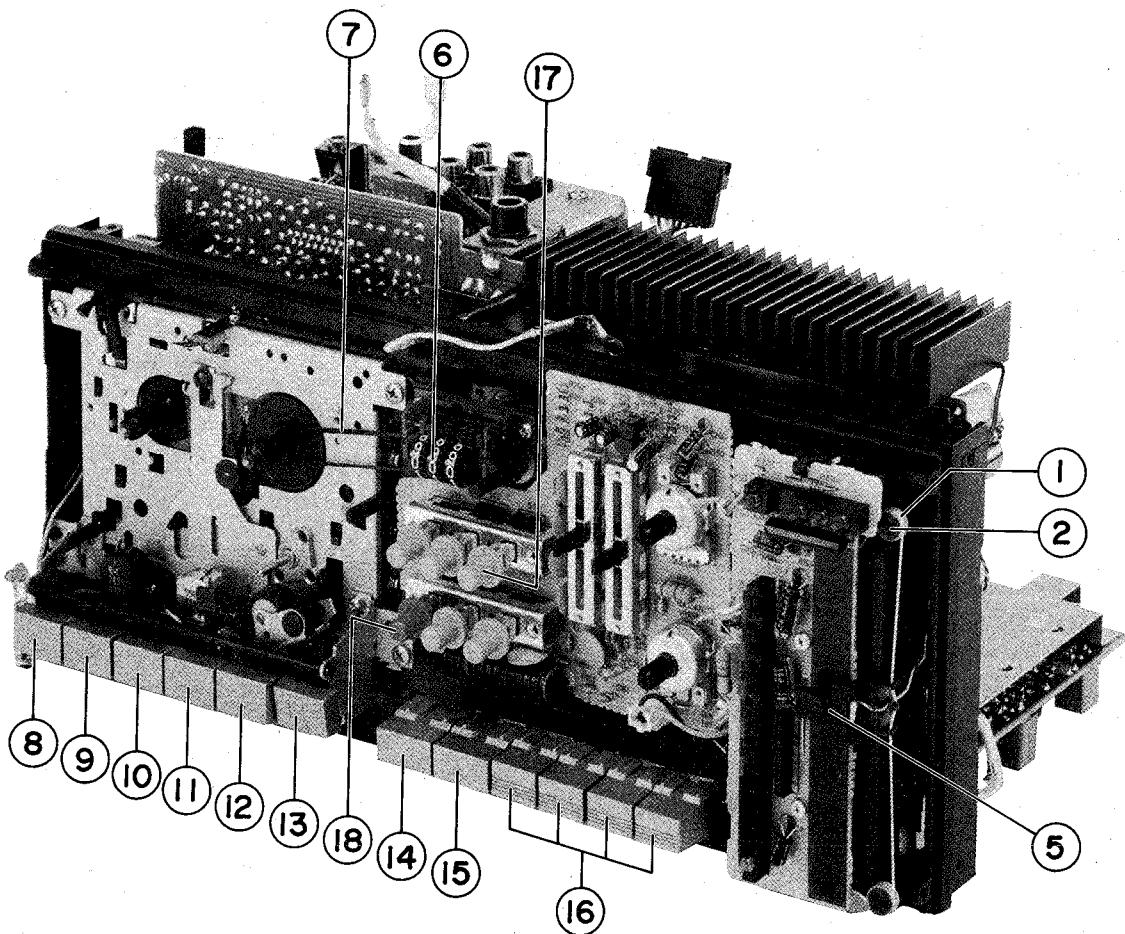
## SPEAKER BOX BLOCK



## 15. SPEAKER BOX BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
15-1L	SS-711917	SPEAKER BOX (L) BLK (L)
15-1R	SS-711916	SPEAKER BOX (R) BLK (R)
15-2	SS-712265	SPEAKER S04H31 7 OHMS 15W
15-3	SS-712266	PASSIVE RADIATOR S09D01
15-4	SS-712267	SPEAKER S09K07 8 OHMS 15W
15-5	EW-712268	WIRE (W/3.5 PLUG)
15-6	SZ-712269	STRAIN RELIEF

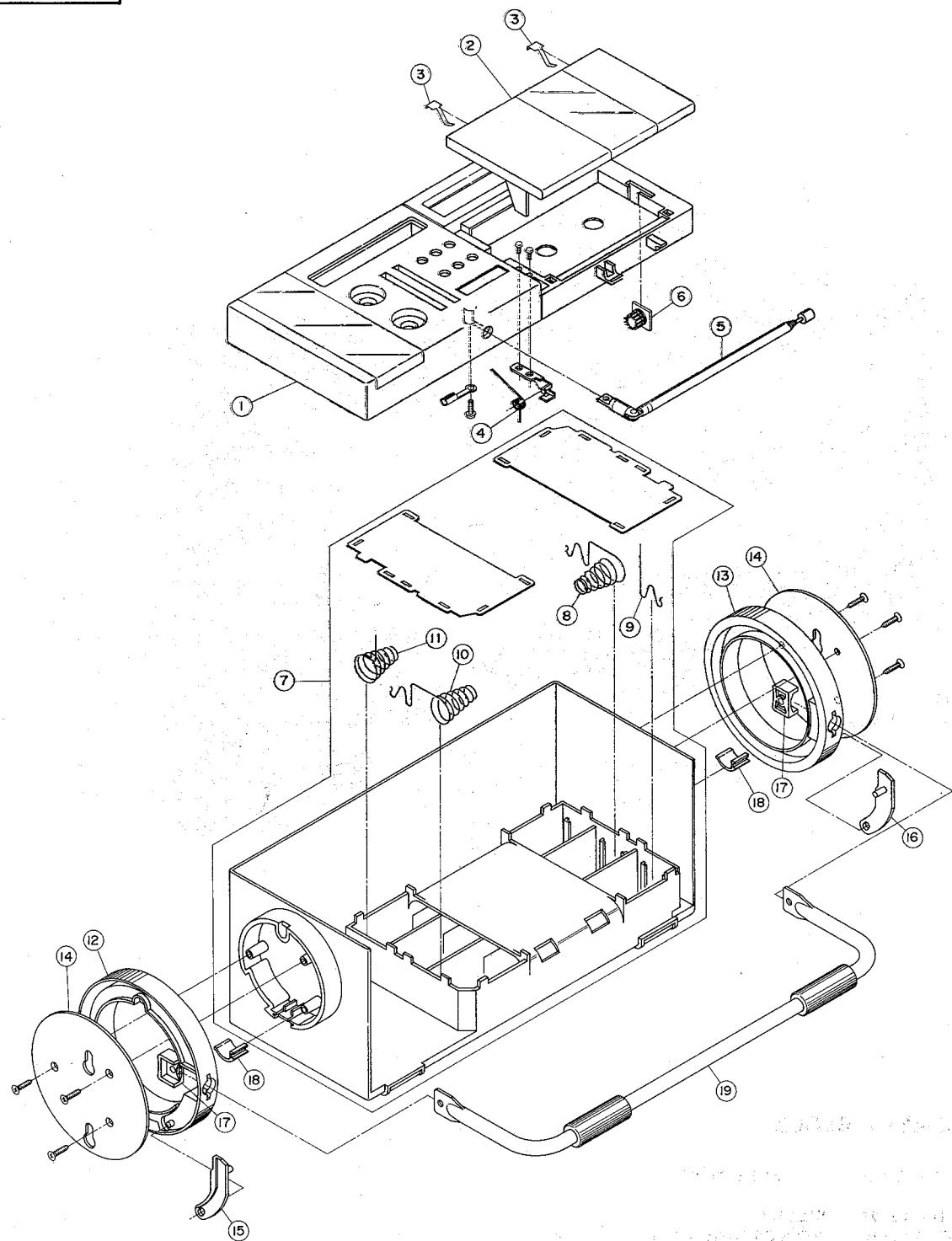
## ASSEMBLY BLOCK



## 16. ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
16-1	MR-712125	PULLEY
16-2	ZW-712126	STOPPER RING C240
16-3x	MI-712127	DIAL WHEEL
16-4x	ZG-712128	SP COIL
16-5	MD-712129	DIAL POINTER
16-6	MC-711925	COUNTER TAPE
16-7	MB-711926	BELT COUNTER
16-8	SK-711928	KNOB REC
16-9	SK-711929	KNOB PLAY
16-10	SK-711930	KNOB REW
16-11	SK-711931	KNOB FF
16-12	SK-711927	KNOB STOP/EJECT
16-13	SK-711932	KNOB PAUSE
16-14	SK-711910	KNOB (TAPE)
16-15,16	SK-711908	KNOB (FM,AM,SW1,SW2)
16-17	SK-711905	KNOB (TAPE SELECT)
16-18	SK-711906	KNOB (DOLBY)

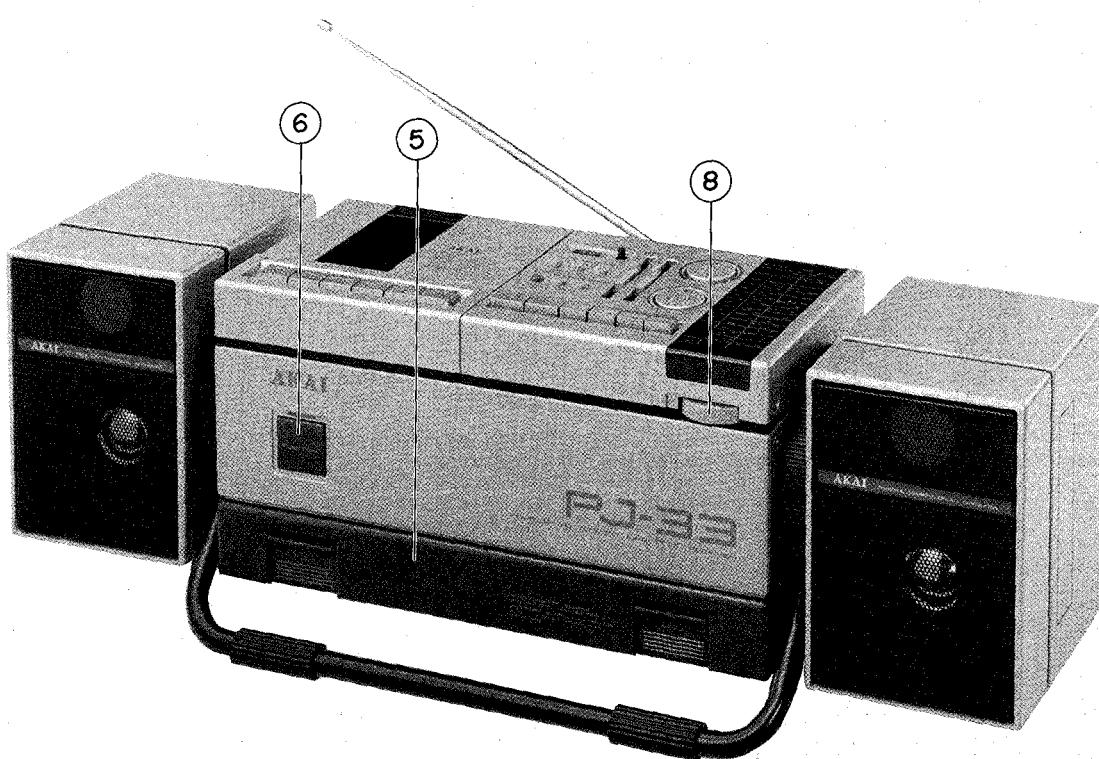
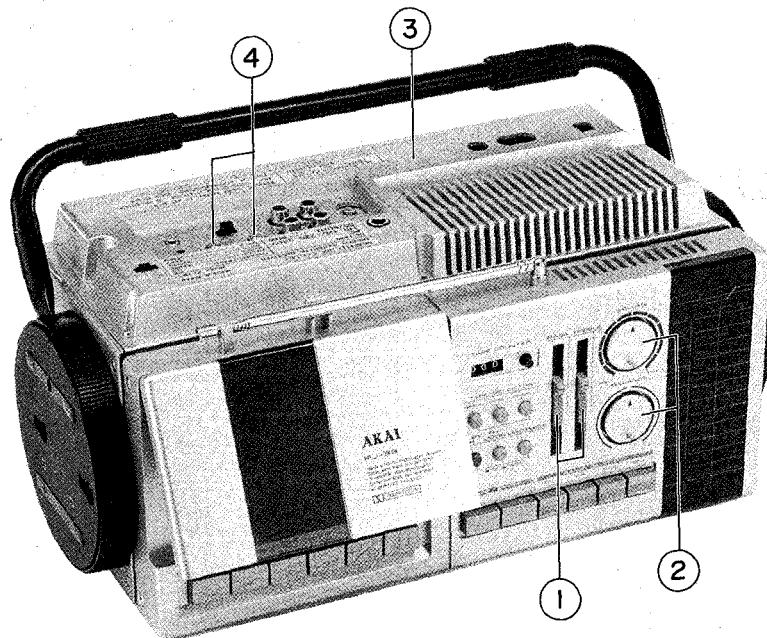
## CASE BLOCK



## 17. CASE BLOCK

REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
17-1FS	BD-711903	PANEL FRONT BLOCK (FS)	17-11	EJ-712115	SP BATT CONTACT
17-2	BD-711904	DOOR CASSETTE	17-12	TK-712117	COVER HANDLE (R)
17-3	ZG-712270	SP PLATE	17-13	TK-712118	COVER HANDLE (L)
17-4	SP-712271	SP TORSION	17-14	TK-712119	COVER C
17-5	EE-711934	ANT ROD	17-15	TK-712120	JOINT A (R)
17-6	MZ-712272	DUMPER ASSY	17-16	TK-712121	JOINT A (L)
17-7	BC-711913	CABINET ASSY	17-17	TK-712122	JOINT B
17-8	EJ-712111	SP BATT CONTACT	17-18	TK-712123	JOINT C
17-9	EJ-712112	SP BATT CONTACT	17-19	SH-711918	HANDLE ASSY
17-10	EJ-712114	SP BATT CONTACT			

## FINAL ASSEMBLY BLOCK

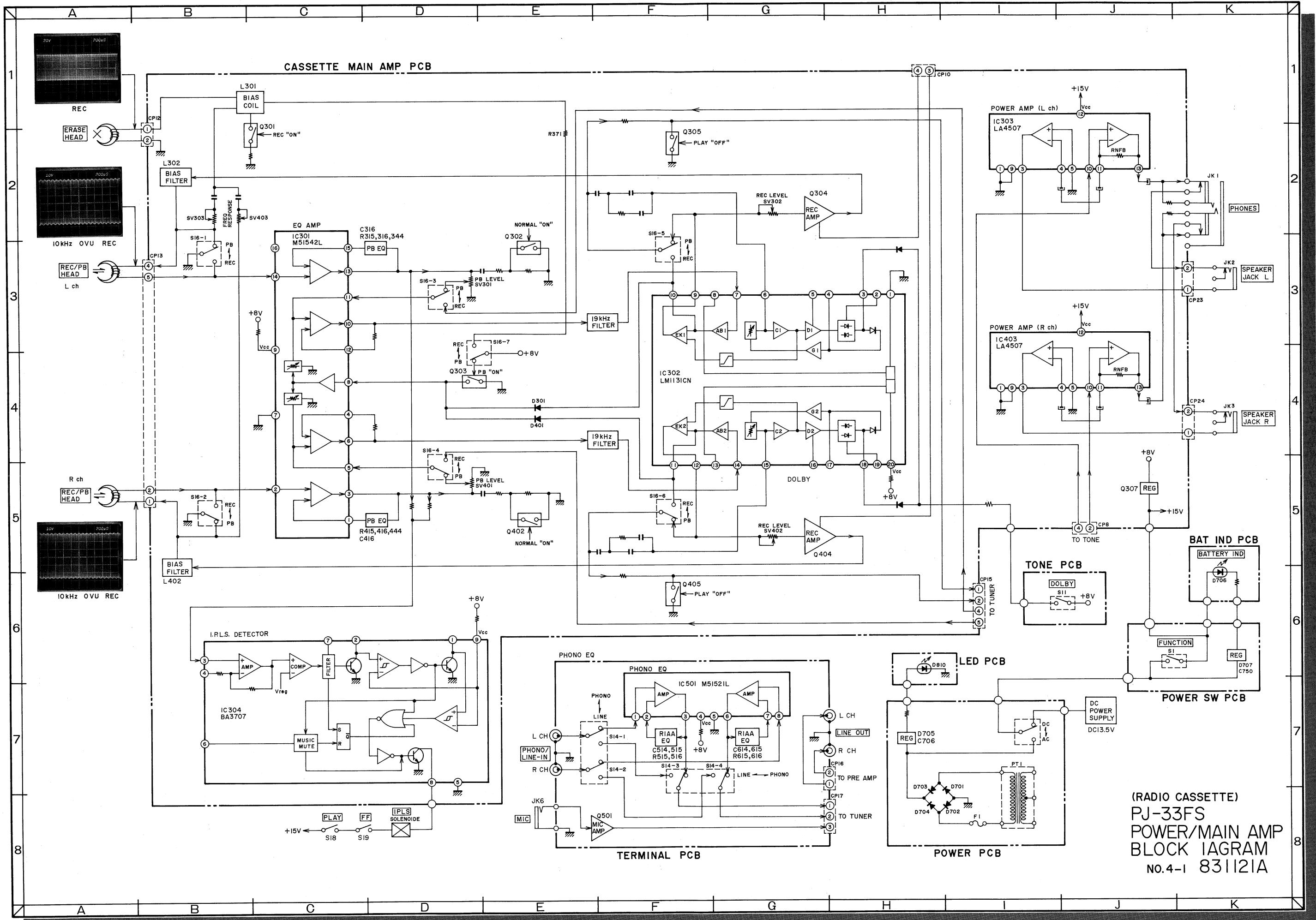


## 18. FINAL ASSEMBLY BLOCK

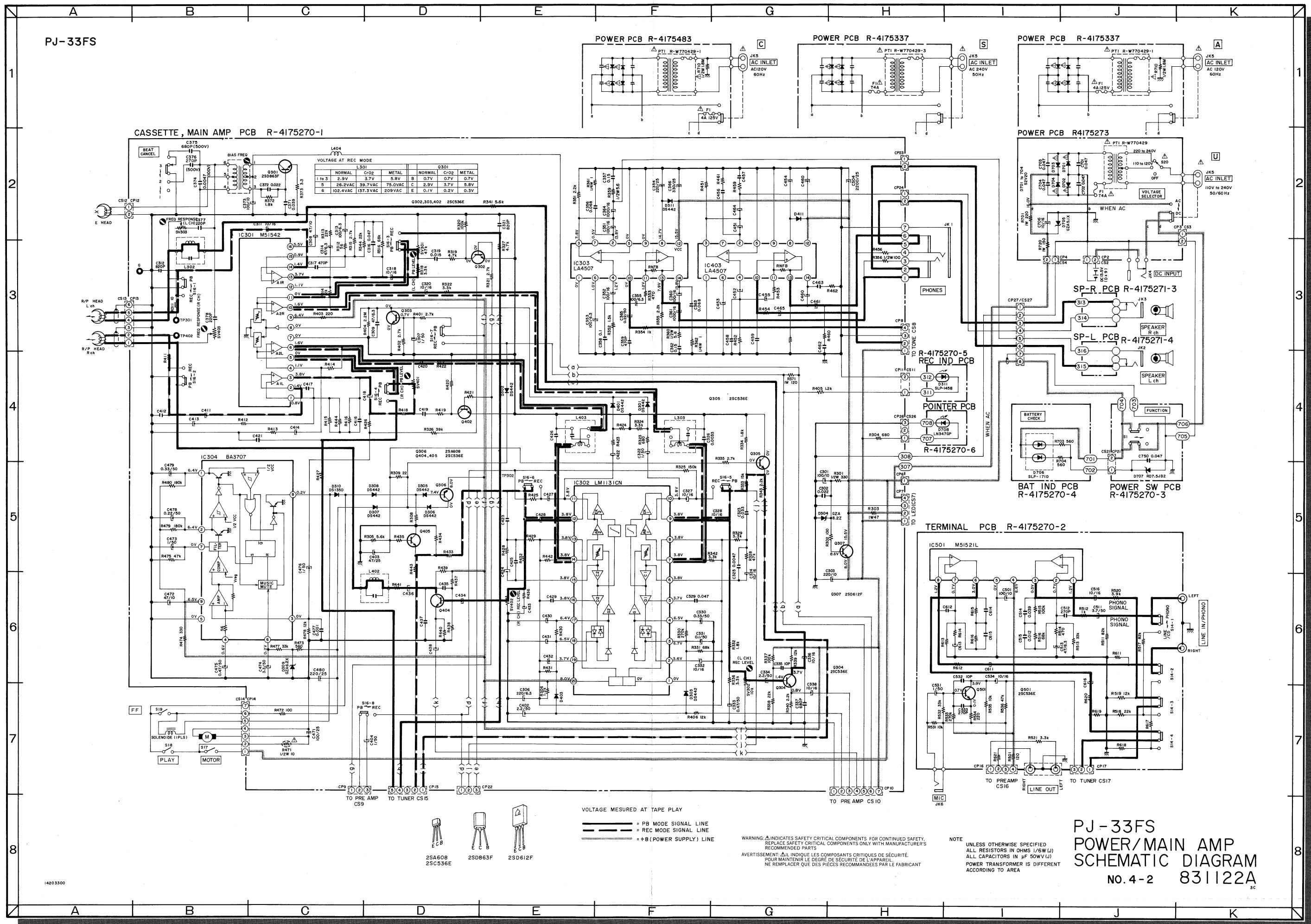
REF. NO.	PARTS NO.	DESCRIPTION	REF. NO.	PARTS NO.	DESCRIPTION
18-1	SK-711907	KNOB SLIDE (BASS, TREBLE)	18-8	SK-711919	KNOB TWING
18-2	SK-711912	KNOB ASSY (VOL, BALANCE)	18-9U	EW-306152	AC CORD 2 CORES KP-700A/KS-15 U/T (U)
18-3U	BC-712116	LID BACK PJ-33 (U)	18-9C	EW-712703	AC CORD 2 CORES KP-10/KS-18B (C)
18-3C	BC-712263	LID BACK PJ-33 (C,A,S,E,B)	18-9A	EW-712704	AC CORD 2 CORES TS-7, TP-4 (A)
18-4	EJ-712254	TERMINAL	18-9S	EW-322401	AC CORD 2 CORES KP-560/KS-15 (S)
18-5	SP-711914	LID BATTERY			
18-6	SK-711915	KNOB POWER			
18-7x	ZG-712110	SP COIL (KNOB POWER)			

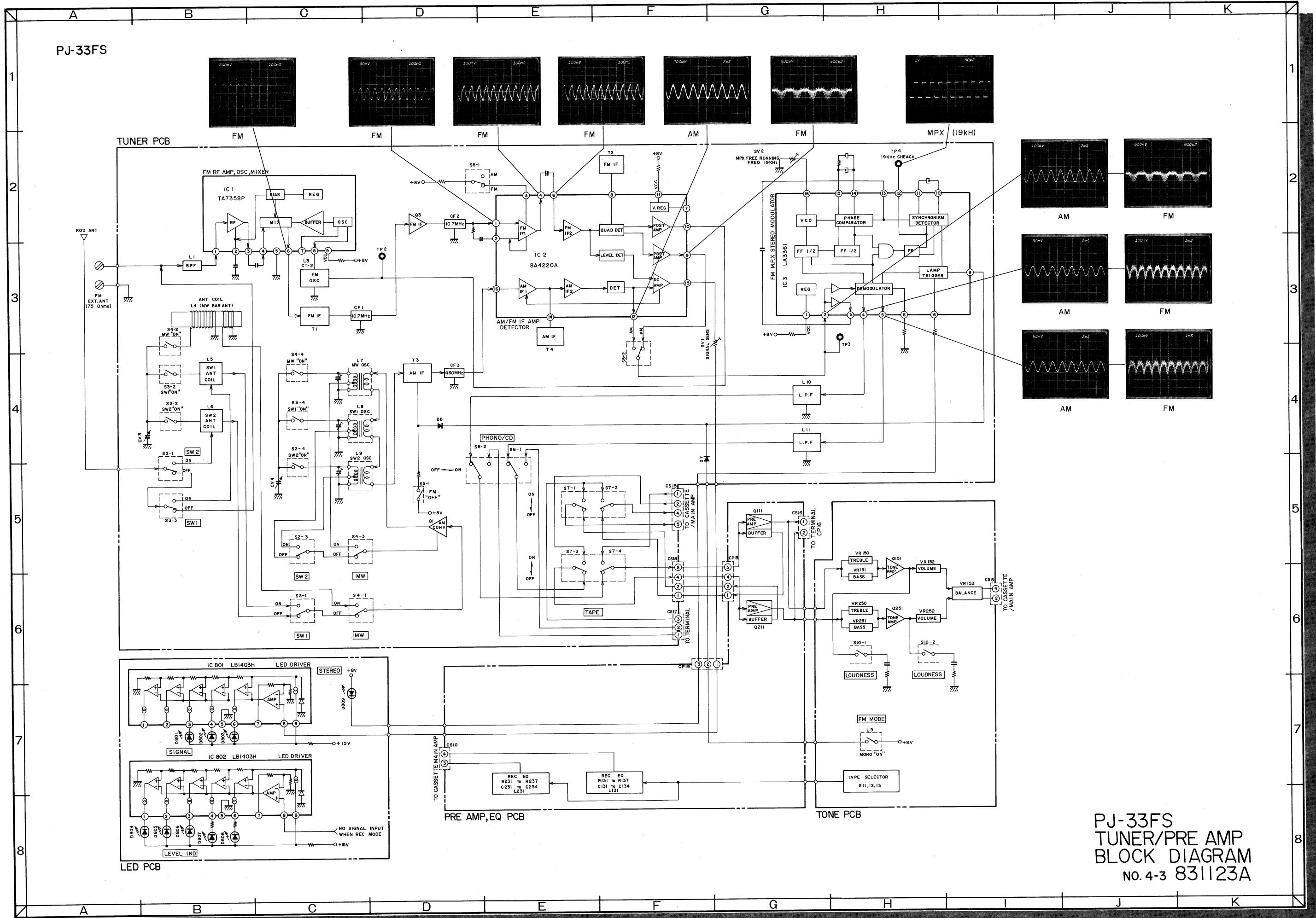
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PARTS NO.	REF. NO.						
BA-711935	2-1	EI-711979	3-IC302	EV-711962	4-VR150	ZG-712084	1-66
BA-711960	5-1	EI-711984	3-IC304	EV-711962	4-VR151	ZG-712085	1-74
BA-711961	4-1	EI-711992	7-IC501	EV-711963	4-VR152	ZG-712087	1-80
BA-711968	3-1	EI-711993	6-IC801	EV-711964	4-VR153	ZG-712088	1-81
BA-711986	7-1	EI-711993	6-IC802	EV-711975	3-SV301	ZG-712093	1-88
BB-711920	1-x	EJ-711987	7-J1	EV-711975	3-SV401	ZG-712097	1-99
BC-711913	17-7	EJ-711991	7-JK6	EV-711983	3-SV303	ZG-712098	1-102
BC-712116	18-3U	EJ-711991	10-JK2	EV-711983	3-SV403	ZG-712099	1-104
BC-712263	18-3C	EJ-711991	11-JK3	EW-306152	18-9U	ZG-712110	18-7x
BD-711903	17-1FS	EJ-712111	17-8	EW-322401	18-9S	ZG-712128	16-4x
BD-711904	17-2	EJ-712112	17-9	EW-712268	15-5	ZG-712131	1-14
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BL-712054	1-11	EJ-712115	17-11	EW-712704	18-9A	ZG-712134	1-59
BL-712062	1-23	EJ-712254	18-4	HE-711924	1-3	ZG-712270	17-3
BL-712076	1-42	EJ-712261	8-JK4	HP-711923	1-1	ZS-712095	1-97
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ED-330324	2-D3	EO-711952	2-L10	MI-712090	1-84	ZW-712107	1-219
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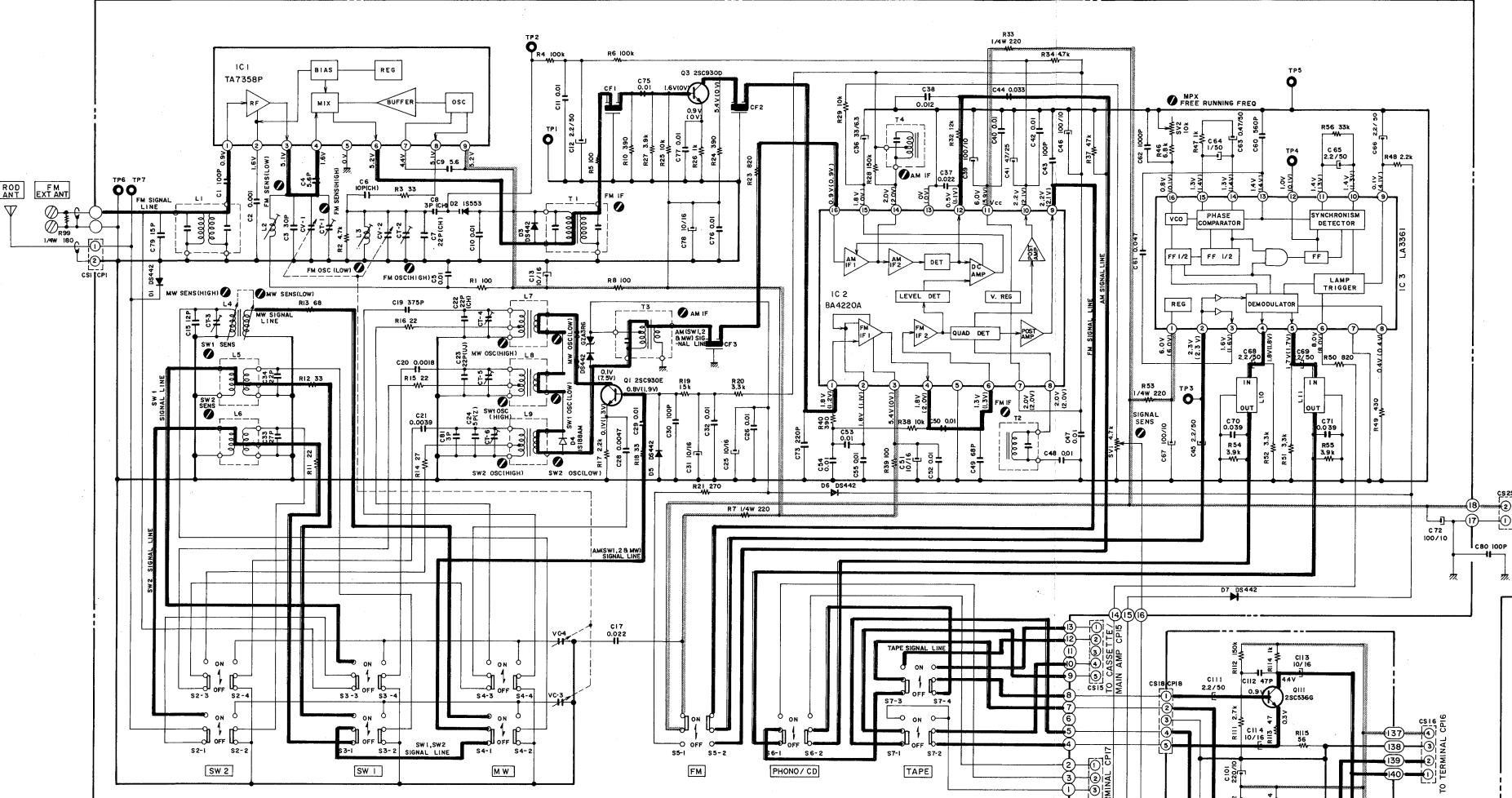
(RADIO CASSETTE)  
PJ-33FS  
POWER/MAIN AMP  
BLOCK IAGRAM  
No.4-1 83II21A



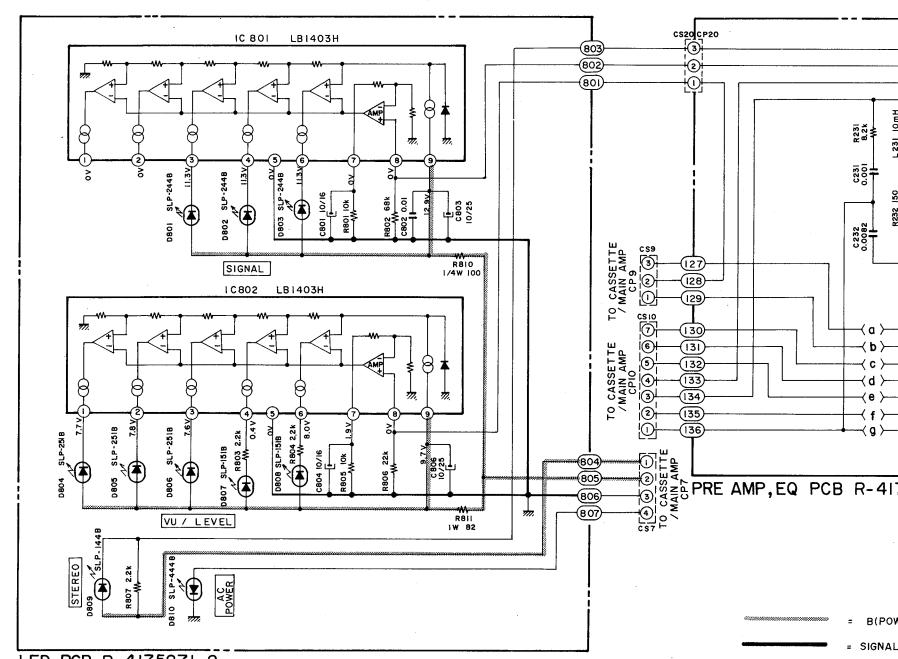
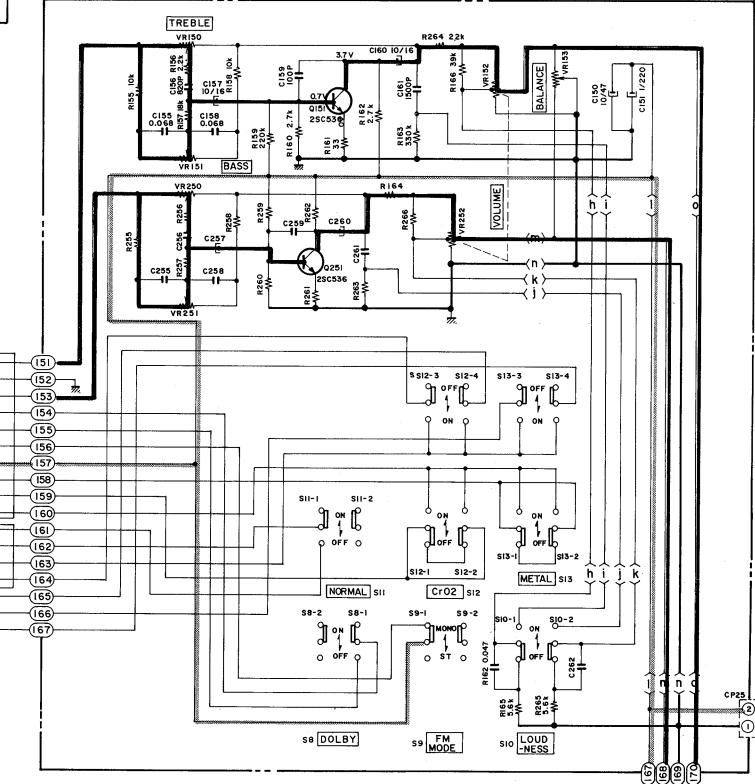


**PJ-33FS  
TUNER/PRE AMP  
BLOCK DIAGRAM  
NO. 4-3 831123A**

## TUNER PCB R-4175271-I



## TONE PCB R-4175272-2



= B(POWER SUPPLY) LINE  
 = SIGNAL LINE  
 VOLTAGE MEASURED AT FM & (MW) MODE

NOTE  
 UNLESS OTHERWISE SPECIFIED  
 ALL RESISTORS IN OHMS 1/6W(J)  
 ALL CAPACITORS IN  $\mu$ F 50V(J)  
 2SC936  
 2SC936G  
 2SC930D  
 2SC930E

PJ-33FS  
 TUNER/PRE AMP  
 SCHEMATIC DIAGRAM  
 NO.4-4 831124A  
 3c